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A Magazine of Western
Ornithology 

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THE CONDOR

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A BI-MONTHLY MAGAZINE OF
WESTERN ORNITHOLOGY

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VOLUME XXXIII

NOVEMBER-DECEMBER, 1931

NUMBER 6

BANDING CANADA GEESE IN CALIFORNIA IN 1931

WITH FOUR ILLUSTRATIONS

By JAMES MOFFITT

(Contribution from the Division of Fish and Game of California)

Field work conducted by the writer in northeastern California in April, 1931, in the interests of the State of California Division of Fish and Game, indicated that there were large numbers of Canada Geese (*Branta canadensis canadensis*) nesting in this region. Estimates of the total number of birds breeding within the state in 1931 ran between 1250 and 2500 pairs. The breeding grounds are roughly bounded by Lake Tahoe on the south, Lake Almanor, Burney and Macdoel on the west, and the Oregon and Nevada boundaries on the north and east. It is believed that most, if not all, of the California breeding Canada Geese also winter in this state. Individuals of the species are present in this region throughout the year. Opinion among residents of the goose breeding grounds varies as to whether some nesting birds spend the entire year in this vicinity or whether they all migrate in winter, their places then being taken by birds which breed farther north.

It seems probable that all the breeding birds migrate to other points in winter, for it is said that winter specimens are larger than breeding ones. The Sacramento and northern San Joaquin valleys are the wintering grounds of large numbers of Canada Geese and it is reasonable to expect that a number of these birds are bred in the region under consideration. Desiring to secure more definite information on this subject, the Division of Fish and Game in cooperation with the United States Biological Survey arranged to band some of these birds on their California breeding grounds in 1931.

I was delegated to conduct the banding operations with the assistance of Mr. Gordon H. True, Jr., also of the Division of Fish and Game. Honey Lake valley, in Lassen County, was selected as the point of operations both because geese were nesting there abundantly and because local conditions appeared best for capturing them. It was desired to band 100 birds if possible. The most difficult problem was to decide when to commence the work, since it seemed best to band both adults and juveniles, and the former had to be caught when rendered flightless by molt of the flight feathers and the latter before full development of their wings. No

data concerning the period during which the adults become flightless could be obtained from literature or game breeders; but residents of the vicinity thought this occurred in late June or early July. Field work in this region in April indicated that most of the young geese hatched between April 19 and 25 this year; therefore June 21 was decided upon as the day to start banding, when the young would be approximately two months old.

Mr. True and I arrived at Honey Lake valley the evening of June 20, making headquarters at the R. D. Murphy ranch, 8 miles west of Wendel, Lassen County. Here Messrs. Murphy and A. L. Brown were of the greatest possible assistance to our work, and it is a pleasure to acknowledge their kindness.

The original plan was to capture the birds in a net along an irrigation ditch where geese had been plentiful in late April. For this purpose, a fish net 100 feet long by 6 feet deep with $3\frac{1}{2}$ inch mesh was procured. The ditch was 12 feet wide and the net was to be set in a V, the point in mid-stream and the sides angling well back beyond either bank. The birds were to be slowly driven down stream into this wedge. Few tules bordered the ditch to afford hiding places for the birds and it was reasoned they would swim down into the net if not too closely pressed. We were unable to carry out this plan, as we found the ditch was entirely dry, June 21. It is mentioned as a probably effective means of securing the birds under more favorable conditions, for residents state geese frequent such ditches and may be driven in the manner described. If pressed too hard, the birds will break and run from the ditches.

June 21 was spent in searching for geese with Messrs. Brown and Murphy. It is singular that an all-day hunt failed to reveal a goose though these men were familiar with their habits and the country. This is mentioned to show how effectively the birds can hide at this season. Two months earlier, when the young were hatching, geese were observed on every watered field, and numbers were calling and flying about. During our six day stay in Honey Lake valley in June, no goose was heard calling and none was seen flying except when driven to do so by us.

June 22, True and I searched several miles of tule and meadow land for geese without avail. We did succeed in locating where a number of geese were undoubtedly hidden on a reservoir of some few acres extent on the Fleming ranch north of Wendel; but this pond was so overgrown with willows, in which the geese were doubtless hidden, that it would have been impossible to catch them there. Fresh sign, tracks and molted wing quills alone disclosed their presence. Finally at dusk, at the end of two days' search, we were rewarded by finding a gathering of approximately 150 birds on a slough on the Tanner ranch, seven miles southwest of Wendel.

This slough is formed by a dam across its south end, at the old shore line of Honey Lake. It averages fifteen feet in width for a distance of half a mile north. Its depth varied from three to six feet and the bottom supported a dense growth of Water Buttercup (*Ranunculus aquatilis*). The banks were lined with a heavy growth of tule (*Scirpus acutus*) which extended some ten to fifteen feet back from the water, on the other sides of which lay meadows of wild hay. Here and there along its course, narrow tule-bordered sloughs branched off to terminate within 100 yards in the meadows. The water was unusually low, on account of the dry season, and but a trickle was flowing over the dam to disappear in the dry bed of Honey Lake within a few feet.

The geese were found resting on a pond some 30 by 150 feet in extent formed by a widening of the slough immediately above the dam. Haying was in progress in the field to the east of the slough and the grass had been cut. Sign indicated

that geese had been numerous there prior to mowing, but they had moved to the meadow west of the slough, which was still uncut, when disturbed by this operation. They were apparently feeding in this meadow along the slough bank and had knocked down several acres of meadow grass so that it could not be cut. This seems to be the extent of damage wrought by geese in the meadow land, and most farmers overlook it and provide the birds every protection. The dry bed of Honey Lake stretched out to the southward of these fields.

We returned to this locality early on June 23, bringing a light boat and the net. When we appeared, the geese were in the uncut meadow west of the slough. We planned to launch the boat, place the net and drive the birds back to the slough, then down it into the net. As soon as the boat was put in the water, some fifty-odd geese flew; but the majority ran away from the water farther out into the high meadow grass. About forty birds ran south, straight out onto the bare, open bed of Honey Lake. We took after them on foot at top speed; but after a chase of nearly a mile succeeded in capturing only three birds. We did not wish to band and liberate the birds there, almost a mile from water, as they were very hot and winded after the chase, so carried them back to water in a barley sack, slit full of holes. In spite of this precaution, one bird was dead when the slough was reached. The remaining birds, both juveniles, were banded, numbers A 714001-2, and released near the slough. Obviously this method of capture was too severe on both birds and banders so we decided to try the net.

Paddling up the slough in our boat, we observed about twenty-five birds in the meadow near the west bank. There was a break in the tules some twenty feet wide a quarter of a mile up-stream where many tracks indicated that the geese traveled back and forth from slough to meadow. The net was loosely stretched across this opening, the bottom pegged down and the top supported by quarter-inch rope stretched between stakes. We then attempted to drive the birds into the net. Twelve of them flew, ten or more ran farther west to hide in the tall grass, and the remaining few ran into the tules bordering the slough, to hide there at scattered points. The experiment was a complete failure and it was judged impossible to drive the birds where tule or heavy grass offered places of concealment.

We next attempted to catch some of the birds hiding along the slough. After considerable beating of the tules, we flushed three birds into the water and one of them was caught from the boat after a chase lasting more than ten minutes. The bird, a juvenile nearly capable of flight, dove and swam under water, even through thick growths of water buttercup, at a surprising speed. It might have been captured more easily with a large, long-handled dip net; but this method is at best a difficult one.

The bird was banded, number A 714003, and liberated, so that it ran into the net, to see what would result. The goose struck the net at a fast run, the loosely hung webbing gave with the bird and when it sprang back the goose was caught in the meshes by the neck, one wing and both legs. It was liberated at once, and previous ideas of leaving the net in position until geese worked into it of their own accord were abandoned, for it was evident that many casualties would result.

It was then mid-day, so we drove home along a road bordering the west meadow on the south. Here four geese were overtaken in the road when they raced down its center ahead of the car. We pursued them until they left the road after a quarter-mile run, when we sprang out and caught two easily. These were banded, numbers A 714004-5, and liberated there. The ease with which the birds were

caught after a short run with the car suggested this as a likely way to secure those that ran out on the dry lake bed.

On our way to the Tanner slough, at 4:00 p. m., we surprised a band of twenty or more geese in the meadow immediately north of the point where the last two birds were banded. The geese started running north across the open meadow, and since they had but 100 yards start on us we pursued them on foot. Every now and then a goose would hide, so that after a half-mile run there were but twelve individuals ahead of us. (Experience had taught us it was useless to attempt to find a bird once it hid in the grass, even though well marked down.) After this run we were no closer to the birds; but they commenced to tire shortly and scattered in various directions. Four were caught after much running, two of which proved to be numbers A 714001-2, the first birds banded that morning a mile east of the point where the present chase started. The others, both juveniles, were banded, numbers A 714006-7.

Continuing on to the Tanner slough, we drove some 30 to 35 birds out onto the dry lake bed. This was in no way difficult, for as soon as we approached the slough the birds left it, some to seek refuge in the meadow grass, others on the lake bed. We were perplexed as to why the birds ran to the lake bed, which was absolutely flat and supported no vegetation large enough to hide a goose. It seemed the most dangerous spot in the vicinity for the birds, with no water or cover available, where they would be ideal prey for coyotes. The only explanation that occurs to me is that the old birds formerly found safety there when the lake contained water (8 years ago I am told) and now instinctively ran in its direction when alarmed.

We had to drive our car two miles east to a gate to reach the lake bottom and when we returned the geese were a mile and a half from the dam. They were still traveling south toward the center of the lake. The birds were grouped in bands of approximately 8, 10 and 15 individuals. We approached the smallest group first and upon pressing them with the car, they scattered out in all directions, one bird to fly off. We singled one goose out and chased it, one man driving, the other standing on the running board. The bird at first ran with outspread wings at a speed of 18 to 20 miles per hour. After a short run, it quickly tired, which fact could be recognized by a side to side, wobbling or staggering gait, when the man on the running board jumped off and caught it within a 100-yard run. When finally approached to within about 20 feet, on foot, the birds often dropped quickly to earth, wings tightly folded and neck extended along the ground. Many times this ruse resulted in their being over-run, in which case they quickly doubled back on their tracks and another chase resulted.

In this manner, scattering the flocks, picking out one bird and running it down, fourteen individuals, including three adults rendered incapable of flight by molt, were caught the afternoon of June 23. The rest of the birds that ran out onto the lake bed were able to fly. As quickly as a bird was captured, its legs were "hog-tied" with a short piece of soft jute rope and it was placed in the rear of the car. The entire lot was then taken back to the slough where individuals were banded and liberated on the water. Eleven juveniles were banded, numbers A 714008-9, A 714013-21, and three adults, numbers A 714010-2.

The morning of June 24 found us at the slough at an early hour, when we succeeded in running nearly fifty birds out onto the lake bed. They were pursued by automobile and foot and all the flightless birds, 27 in number, were captured. The remaining 20-odd flew off on close approach. We had feared for many repeats of the previous evening's banding, but did not secure any. However,

the two birds that were banded the previous afternoon in the west meadow were taken, numbers A 714006-7. Unfortunately, the latter was inadvertently run over by the car as it dodged back while being caught and its foot so broken it had to be destroyed. Another bird loosened its ties and escaped while banding was in process at the slough, so the net number banded this day was 24. Seventeen juveniles were banded, numbers A 714022-4, A 714032-45, and 7 adults, numbers A 14025-31. We decided to let these geese alone for the rest of the day, and we left the slough at 11:00 a. m. after banding and photographing the birds.

Returning the next morning, no goose could be found in the vicinity of the slough or meadow west of it. Another visit the following morning provided equal results. The birds had simply left the country. We reasoned that the geese had traveled up the slough and waterways above it, and though we followed these for two miles, we failed to find a bird. No doubt this was their direction of travel; but our disturbance had evidently been so severe that they went a long distance.



Fig. 54. CANADA GEESE IN REAR COMPARTMENT OF AUTOMOBILE BEFORE BANDING AND LIBERATION IN HONEY LAKE VALLEY, LASSEN COUNTY, CALIFORNIA; JUNE 24, 1931. NOTE ADULTS IN FOREGROUND AND CENTER BACKGROUND. JUVENILE BIRDS MAY BE DISTINGUISHED BY SHORTER BILLS AND DOWN ON HEAD AND NECK.

In this connection it is interesting to note that no repeat was taken closer than a mile from the original point of capture. It appears that banding (or chasing) greatly frightens the birds and they immediately seek other grounds, not to return to the place of capture for some time at least.

The afternoon of June 24, June 25, and the morning of June 26 were spent in searching Honey Lake valley for more geese. Though many miles of meadow and tule land were visited, the only birds seen were 12 individuals noted on Ward Lake, a considerable body of water where they could not be captured. The work terminated at mid-day of June 26.

I estimated from my field work in Honey Lake valley, April 19-21, 1931, that no less than 400 pairs of Canada geese were nesting in the region. This is a conservative figure. Assuming that each pair of adults raise an average of four young

to the flying age, the total progeny at the time of banding would be 1600. In addition to the nesting birds, many non-breeding individuals were present. These probably sub-adult birds were thought to equal or even exceed the number of nesting geese; but on account of the difficulty in distinguishing the two, their number was conservatively placed at 600 individuals. The total number of Canada geese present in Honey Lake valley at the time of banding could have been no less than 3000 birds. The fact that we saw less than 200 individuals in five and one-half days of field work in June, covering most of the valley, indicates the ability of the birds to hide at this season. In view of conditions as we found them, we felt we were fortunate in banding 45 birds in place of the hundred or more we had anticipated banding.

It has been stated that a number of birds from each large flock flew upon close approach. It was apparent in such cases that the birds flew unwillingly and should have preferred to remain with the flightless individuals. Such flights were



Fig. 55. ADULT MALE CANADA GOOSE Banded, NO. A 714025, AT HONEY LAKE VALLEY, CALIFORNIA, JUNE 24, 1931. NOTE EXTENSIVE MOLT OF WING FEATHERS IN PROGRESS.

of short distance and upon alighting the birds were sometimes joined by the flightless ones which walked up to them. This indicates the gregarious nature of the birds at this season. It has also been stated that a number of the geese that ran as far as two miles out onto the lake bed were later found to be capable of flight. These birds usually stayed in a separate band from the flightless ones and took to wing on close approach. In cases where one or two geese flew from a small gathering it was apparent the fliers were adult and the flightless ones juveniles. In an instance already alluded to, a single adult flew from a group of eight birds, leaving an adult and seven young which were captured. This was apparently an unusually large family and indicates that both adults do not necessarily become flightless at the same time. Another group of two adults, obviously male and female, and four young, captured June 24, indicated that both old birds may become flightless at once. Of the birds that flew when first approached, most appeared to be adult

(that is birds over a year old); but some juvenile young of the year were definitely observed in these flocks. A few of the juveniles caught on the lake bed could actually fly a short distance. These birds ran and flapped along upon first approach until their wings raised them two or three feet off the ground. They maintained flight at this level for about 100 yards, when they evidently tired, dropped down to running and were unable to rise again. After such exertions they were readily caught.

A total of 10 adult and 35 juvenile geese was banded. This proportion indicates a ratio of one pair of adults to seven young, and confirms our observations that both parents were not always flightless as the young approached the flying stage.

There was considerable variation in the development of the new flight feathers in the adults handled. Figures 55 and 56 depict an adult (banded no. A 714025) which showed the least development of new flight feathers of any caught. Figure



Fig. 56. ANOTHER VIEW OF SAME BIRD SHOWN IN FIG. 55. NOTE THAT THE NEW PRIMARY AND SECONDARY FLIGHT FEATHERS GROWING IN ARE ALL OF ABOUT EQUAL LENGTH, HENCE ARE EVIDENTLY ALL MOLTED AT ONE TIME.

56 shows that the primaries, secondaries and primary coverts were apparently molted at the same time, as the new feathers are all of equal length. Also note that the greater and median coverts have not yet been shed. Figure 55 shows that the lesser coverts are commencing to molt. The scapulars, axillars and underwing coverts have not yet molted, nor have the rectrices or any of the head, neck or body feathers. Six other adults were captured whose new flight feathers were but slightly more advanced than in the specimen photographed. Two adults had the new flight feathers about equally developed and half grown as indicated by one of them (no. A 714026) figured with no. A 714025 in figure 57. One of the adults captured June 23 was even farther advanced and could fly a few feet with its new quills.

Most of the juveniles banded were of the same size. Their wings were developed about as in the adult on the left in figure 57. A few young birds, the ones that could fly a short distance, were still farther advanced, so it was judged that most of them would be a-wing in a few days. In this respect it seems desirable to band these birds when they are as near flight as possible, for when once a-wing

there is little chance of loss from natural enemies. Three juveniles that were banded were considerably smaller than the rest and their primary and secondary flight quills were just commencing to sprout. One of these birds is shown, the second from the left, in the foreground of figure 54. This specimen is representative of the smallest birds banded. The two casualties that resulted from the banding were preserved as specimens. These birds are considered average for the majority of juveniles banded. Their measurements follow:

	Date	Sex	Length	Wing	Weight
No. 1332 (Died in sack)	June 23, 1931	♂	815 mm.	363 mm.	5 lbs., 10 oz.
No. 1333 Banded No. A 714007	June 24, 1931	♂	820 mm.	334 mm.	5 lbs., 11 oz.

Note that while the measurements and weights are close, the smaller bird had farther advanced wings. The condition of these birds was fair, some fat appear-



Fig. 57. ADULT CANADA GEESE PHOTOGRAPHED SEVEN MILES SOUTHWEST OF WENDEL, LASSEN COUNTY, CALIFORNIA, JUNE 24, 1931. THE BIRD AT THE LEFT (BAND NO. A 714026) HAS MOLTED ITS FLIGHT FEATHERS AND THEIR COVERTS AND THE NEW ONES ARE WELL GROWN. BIRD AT RIGHT ALSO PICTURED IN FIGS. 55 AND 56.

ing on their breasts and flanks. The pectoral muscles were soft and poorly developed. The feet and leg muscles were well developed, about as in an adult bird.

Two of the adults captured, on account of their large size, were certainly ganders, and at least four were unquestionably females. The sex of the remaining four old birds could not be determined. All the old geese were quite thin; but the females were in exceptionally poor flesh, being much thinner than the males. It is unfortunate that we had no scales available on which to weigh the old birds, but I judged some of the females weighed less than eight pounds.

Some conclusions were formed as a result of the work, that will be enumerated briefly for the benefit of those who may attempt further banding of Canada geese in California.

1. The young birds appear to fly from 7 to 8 weeks after hatching.
2. Most adults become flightless just before the young fly.
3. It is impossible to run down and catch any quantity of birds on foot.
4. It is useless to attempt to catch the birds in heavy grass or tules.
5. It is difficult to capture the birds from a boat, unless the water be so shallow as to interfere with their diving. In any case, a dip net should be used.
6. A set net is an effective means of catching geese if they can be driven into it. However, it should be attended constantly or the birds will seriously injure themselves in their struggles for freedom.
7. Trapping is judged a poor method, for only a few birds can be expected at a station, as they appear quickly to leave a locality where disturbed to any extent.
8. Driving the birds into open country and running them down with horse or automobile, then on foot, is considered the most effective means of catching large individuals.
9. Birds over three weeks of age have sufficiently large feet and legs to be banded with safety. However, their chances of survival are less than in larger individuals.

The following table provides a list of the geese banded with annotations concerning their size and development:

BANDED JUNE 23, 1931:

Band Number	Sex	Age	Development
A 714001-9	?	Juv.	Wing feathers nearly grown.
714010	♀	Ad.	New wing feathers about 3 inches long.
714011	♂	Ad.	New wing feathers half grown.
714012	♀	Ad.	New wing feathers two-thirds grown.
714013-8	?	Juv.	Wing feathers nearly grown.
714019	?	Juv.	Bird half grown, flight feathers just appearing.
714020-1	?	Juv.	Wing feathers nearly grown.

BANDED JUNE 24, 1931:

A 714022-4	?	Juv.	Wing feathers nearly grown.
714025	♂	Ad.	New wing feathers half grown.
714026	♀	Ad.	New wing feathers about 2 inches long (see photo).
714027-30	?	Ads.	New wing feathers averaging 3 inches in length.
714031	♀	Ad.	New wing feathers 3 inches long.
714032-41	?	Juv.	Wing feathers nearly grown.
714042-3	?	Juv.	Birds half grown, flight feathers just appearing.
714044-5	?	Juv.	Wing feathers nearly grown.

510 Russ Building, San Francisco, California, July 27, 1931.

Addenda. Subsequent to writing the above article it developed that a number of Canada Geese died near where the banded birds were liberated on June 23 and 24. This fact was first established, July 30, 1931, when Deputy Game Warden C. O. Fisher of Susanville sent in bands numbers A 714013 and A 714037 from birds that had perished.

I visited the region, October 9, and made a search of the locality, finding that much mutilated carcasses of twelve geese. Two of these bore bands numbers A 714030 and A 714040, two were the carcasses from which Fisher sent in the bands, one was an unbanded bird, and the rest were so mutilated that one or both feet and legs were missing and it could not be established whether or not the birds had borne bands.

The cause of the birds' deaths is unknown; but it may be attributed to releasing them in water too soon after catching. In any event it provided a severe disappointment and is mentioned to deter others from handling the birds similarly until further investigation reveals the cause of their mortality.—JAMES MOFFITT, October 24, 1931.

SOME FLOCKING HABITS OF THE CROWNED SPARROWS

WITH THREE ILLUSTRATIONS

By JOHN B. PRICE

The Golden-crowned Sparrow (*Zonotrichia coronata*) and the Puget Sound White-crowned Sparrow (*Zonotrichia leucophrys pugetensis*) arrive on the campus of Stanford University, California, during the last week of September and leave on their migration north during the last week of April or the first week of May. These birds are numerous at Stanford and are by far the most ready to enter the bird banding traps.

The writer started banding at Stanford in 1925 with three traps placed at distant intervals about the campus and soon found, together with other banders at Stanford and elsewhere, the now well-known fact that these birds nearly always repeat at the original place where banded, showing that their local ranges are restricted. The questions presented themselves: (1) Do flocks of sparrows have a definite range in the winter? (2) What is the extent of a range? (3) Do individual birds often leave their flock for another? (4) Do individual birds return to the same range after their migration?

In the spring of 1928 the writer obtained 12 traps and placed them at near intervals about the campus as shown in figure 58. These traps were also operated in 1928-29. Mr. Hugh Israel and Mr. Fred Rettig also operated traps at Stanford and their results were included by the writer when there was an exchange of birds between traps. Banding, however, has the limitation that the bird must be recaptured to be identified, so in addition the feathers of the birds were stained distinctive colors so that they could be recognized when seen in the field. The stain used was originated by Dr. W. K. Butts at Cornell University (see *Auk*, XLIV, 1927, p. 329). It was made by dissolving an artist oil color in carbon-tetrachloride. In this way several distinctive colored stains could be formed. The stain was applied directly to the feathers on the back and breast of the captured birds (which were also banded). After the birds were stained and released they usually fluttered to some near-by bush and waited there a few minutes, until the carbon-tetrachloride evaporated, and then flew away. No ill effects were observed either then or later, and many birds stained were recaptured in good condition the following season, although, of course, the stain had long since vanished. The colors were easily distinguished in the field with field glasses for about a month and a half after staining. Birds captured at one trap were colored green, those at another red, and so on. Then by making field observations it was possible to see how far birds ranged from the trapping stations.

Results with Golden-crowned Sparrows. The following numbers of these birds were captured by the writer:

Year	Number banded	Recovered from other years	Total individuals captured	Total of all repeats	Average times each captured
1927-28	197	133	330	1131	3.42
1928-29	119	134	253	748	2.95

Although the traps were close together, by far the greater number of golden-crowns repeated at the same trap where first captured. The following table shows the numbers in each class. (The numbers refer to *individual* birds repeating at a trap.)

TABLE OF REPEATS

Year	Same trap	Distance from trap where first caught:				
		40-100 yards	101-200 yards	201-300 yards	301-400 yards	401-500 yards
1927-28	154	33	42	61	2	1
1928-29	108	33	48	30	3	5
Total	262	66	90	91	5	6

These results give some information as to the extent of the birds' ranges, although of course the comparatively limited number of traps used and the fact that the theoretical chance of a bird being recaptured decreases in inverse proportion as the square of the distance between the two traps makes more exact infor-

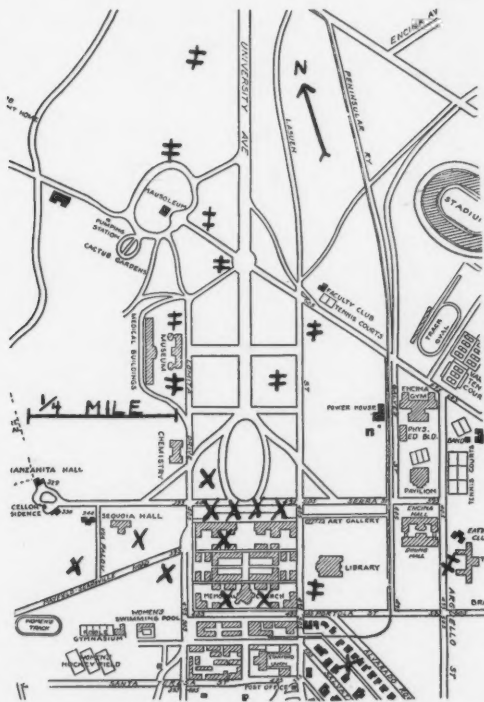


Fig. 58. TRAPPING STATIONS ON STANFORD CAMPUS. AUTHOR'S TRAPS (MARKED X) OPERATED IN FEBRUARY AND MARCH, 1928, AND SEMI-CONTINUALLY OCTOBER, 1928, TO APRIL, 1929. TRAPS OF OTHER BANDERS AT STANFORD MARKED †.

mation desirable. This was obtained, as stated above, by feather staining. Birds at one trap were stained red, at another green, at another yellow, and at another orange and green.

Although easier to trap than the white-crowns the golden-crowns are harder to observe in the field as they keep more in the bushes. The following numbers were stained and observed:

THE CROWNED SPARROWS

Color	Year	Number stained	Number observed in field
Red	1927-8	13	10
Red	1928-9	14	28
Green	1927-8	49	18
Green	1928-9	30	53
Yellow	1927-8	23	11
Yellow	1928-9	11	30
Orange-green	1927-8	9	8
Orange-green	1928-9	17	8
Total		166	166

None of the stained Golden-crowned Sparrows seen in the field was 600 yards from the staining trap and nearly all were within 400 yards of it. Lack of space prevents presenting maps to show all of these observations, but a typical one (fig. 59) is given, showing the field distribution of the green and red stained Golden-

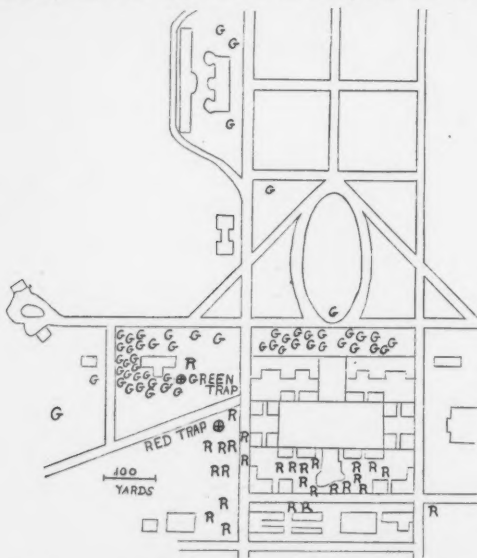


Fig. 59. OBSERVATIONS ON GREEN STAINED AND RED STAINED GOLDEN-CROWNED SPARROWS, AT STANFORD UNIVERSITY DURING FEBRUARY AND MARCH, 1929. G INDICATES A GREEN STAINED BIRD OBSERVED IN THE FIELD AND R A RED STAINED BIRD. THE BIRDS FORMED TWO SEPARATE FLOCKS, EACH WITH ITS OWN TERRITORY.

crowned Sparrows. It is interesting to note that the two groups (with one exception) did not mix although the two traps were only 100 yards apart, showing that these birds form definite *flocks* with a range, and *not* that each *bird* has its own separate territory.

Although each spring the Golden-crowned Sparrows migrate north, large numbers return to the Stanford campus. In the winter of 1927-28, 197 of these birds were banded by the writer at Stanford and in 1928-29, 28 per cent of these were recaptured at Stanford. Of course many more may have returned that were not

trapped. Not only did the birds return to Stanford, but they usually returned to the same trap. In 1928-29, 120 golden-crowns were recaptured that had been captured (banded or recovered) at Stanford the previous year. Of these, 96 were recaptured at the original trap and only 24 were recaptured exclusively at other traps, although the traps were quite close together.

Results with Puget Sound White-crowned Sparrows. The following table shows the numbers of these birds captured by the writer at Stanford.

Year	Number banded	Recovered from other years	Total number individuals captured	Grand total of repeats	Average times each captured
1927-28	115	28	143	287	2.00
1928-29	75	34	109	189	1.73

As shown below, in the great majority of cases the birds repeating were retaken at the same trap. It should be noted that the numbers refer to individual birds and a bird recaptured at a trap five times would be counted as one bird for that trap.

Number of individuals repeating during year:

Year	Same trap	Distance from original trap where banded:				
		40-100 yards	101-200 yards	201-300 yards	401-500 yards	501-600 yards
1927-28	55	3	2	3	0	2
1928-29	29	4	8	9	3	2

These results indicate that the ranges of these birds are surprisingly restricted.

All White-crowned Sparrows captured at trap 101b, which is between Jordan Hall and the Little Theater, were stained red during February and March, 1928; and during the same months birds captured at 532 Alvarado, 500 yards distant, were stained green and orange. The map (fig. 60) shows the range of the red White-crowned Sparrows in a definite flock. So many were observed that it is impossible to show them individually on the map. Twenty-two were stained red, and 176 red observations were made in the field within the flock area, or, on an average, each bird was observed eight times. Sometimes sixteen red birds at once would be observed with the flock feeding by the church. About 60 birds in all comprised this flock. Only one red white-crown was seen outside this range. It was trapped in front of Jordan Hall on March 20.

A portion of the range of the green-orange flock is also shown on the map. Sixteen were stained at this trap and 41 were observed in the field. In only one case was a green-orange White-crowned Sparrow seen outside its own flock area—on March 19, with the red flock near the church. It was observed in the morning and afternoon but was not there afterwards. No persecution was observed.

A third flock of White-crowned Sparrows frequented the bushes in the ovals north of the Quad; but with the one exception above noted, no red birds were seen with this flock although frequent observations were made of all three flocks.

The sparrows of the red flock roosted in bushes back of the Little Theater. The writer constructed a net of mosquito netting 30 feet by 15 feet and with the help of other banders surrounded some of these bushes and captured a few of the birds, although as the sparrow flock did not roost as a unit in one bush, only a few birds were captured with each "haul".

The staining experiment was repeated the next year (1928-29) with similar results. Both flocks had the same ranges as before except that apparently the red flocks extended a little more to the west.

Like the Golden-crowned Sparrows the Puget Sound White-crowned Sparrows return to the same small areas after their migration.

Recaptured in 1928-29, at same trap as year before, 18.

Recaptured in 1928-29 at different trap than before, 3.

Habits of other *Zonotrichia*. Mr. Joseph Mailliard of the California Academy of Sciences has recorded (Condor, xxxi, 1929, p. 192) some results in banding the Nuttall White-crowned Sparrows (*Zonotrichia leucophrys nuttalli*), which subspecies does not occur at Stanford University. He found that with three traps all within 200 yards of each other very few birds exchanged between any two traps. This shows apparently that the resident Nuttall Sparrows have much the same territorial habits in winter as the migratory Puget Sound Golden-crowned Sparrows.

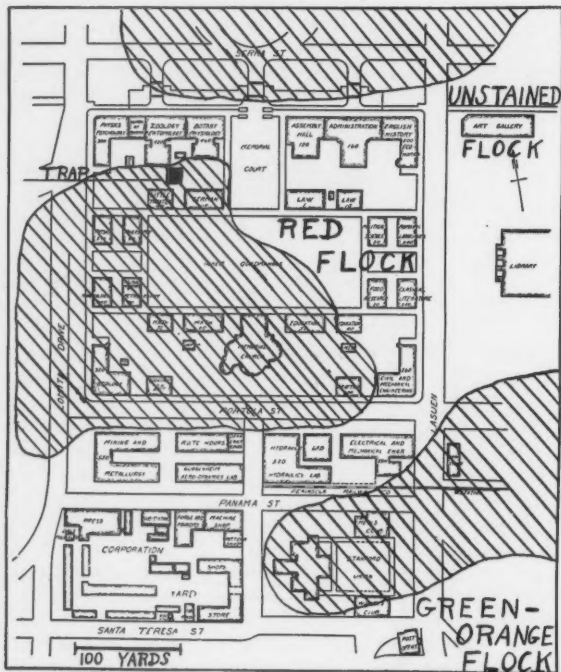


Fig. 60. THE RANGE OF THE RED STAINED FLOCK OF PUGET SOUND WHITE-CROWNED SPARROWS DURING FEBRUARY AND MARCH, 1928, AT STANFORD; 22 WERE STAINED RED, AND 176 FIELD OBSERVATIONS OF RED BIRDS WERE MADE INSIDE THE FLOCK AREA AND ONLY ONE OUTSIDE. ONLY ONE GREEN-ORANGE BIRD WAS OBSERVED IN THE RED FLOCK'S TERRITORY.

Conclusions. 1. Both the Golden-crowned Sparrows and the Puget Sound White-crowned Sparrows spend the winter on the Stanford University campus in definite flocks each with its own range of about 15 to 20 acres, and there is very little changing of individual birds from one flock to another.

2. In most cases an individual bird returns to its original flock territory after migration.

Stanford University, California, June 7, 1931.

THE SCIENTIFIC NAME OF THE WESTERN SANDPIPER —WHO WAS MAURI?

By T. S. PALMER

From time to time, for nearly a hundred years, ornithologists have recognized two forms of Semipalmated Sandpiper and have separated the western one as a distinct species. We now know that these two forms, differing mainly in length of the bill and in some minor degree in color, breed in the far north, the eastern form from Newfoundland along the Arctic coast to Plover Bay, northeastern Siberia, and the western species breeding only in Alaska from Camden Bay and Point Barrow to Saint Michael and Hooper Bay. Both occur in migration along the south Atlantic coast and in the West Indies, but the eastern form (*Ereunetes pusillus*) goes much farther south in South America, even to Patagonia, while the western form occurs mainly on the west coast and occasionally goes as far as Machala, Ecuador. Both are abundant, well-known birds and have been observed for many years, but how they reach their breeding grounds from their winter quarters is still unknown.

Bonaparte in 1838 named the Western Sandpiper *mauri* (corrected in 1856 to *maurii*), but in neither case published a description; Lichtenstein about the middle of the century labeled a specimen in the Berlin Museum *cabanisi* but published no description; Gundlach in 1856 described five specimens from Cuba but did not give them a distinctive specific name; Cabanis in editing Gundlach's paper revived Bonaparte's name and added a formal description thus establishing *mauri*; and Lawrence in 1864 described a bird from California calling it *occidentalis*. For many years Lawrence's name remained in general use and was the one adopted by the American Ornithologists' Union in the first and second editions of the Check-List of North American Birds.

In 1904, Dubois (Synopsis Avium, p. 949) called attention to the prior claim of *mauri* and Dr. J. A. Allen in a note in *The Auk* (1906, pp. 97-98) advocated this name. As a result, in 1910, in the third edition of the Check-List of North American Birds the designation of the Western Sandpiper was changed from *Ereunetes occidentalis* Lawrence, with California as its type locality, to *E. mauri* Cabanis, with Cuba as its type locality, and immediately preceding it appeared the eastern Semipalmated Sandpiper, *E. pusillus* (Linnaeus), with Santo Domingo as its type locality. It is true that Santo Domingo is east of Cuba, that Cabanis described a bird from the latter island as *mauri*, and that the statement in the Check-List is literally true, but this is so condensed that it effectively conceals an interesting bit of ornithological history.

How did it happen that these two common birds which occupy well defined areas in the Arctic as their breeding grounds should be described from specimens collected in the Tropics on the adjacent islands of Santo Domingo and Cuba and should have been named by Swedish and German ornithologists?

As already stated, Cabanis adopted Bonaparte's name but neither he nor the original author explained its application. To ascertain its origin it is necessary to examine more closely the background of its publication. Bonaparte first named the species in his Comparative List of Birds of Rome and Philadelphia, published early in 1838 during a visit to London. For some years previous, Bonaparte, then at the height of his fame, had been living in Rome engaged in the publication of his great work "Iconografia della Fauna Italica." In the first volume appears a list of associates, including Prof. Ernesto Mauri of Rome, and in the preface, a reference to the assistance in botany rendered by Mauri. In volume 3, pt. I, may be found a de-

scription of a new species of fish (*Smaris maurii*) dedicated to the memory of "my dear professor of practical botany." Ernesto Mauri was an eminent botanist, born at Rome, January 12, 1791, and died there April 13, 1836. He was director of the botanical gardens in Rome and author of several important papers on early Roman botany. In recognition of his work a new genus of tree of the order Anacardiaceae was named *Mauria* by Kunth in 1824. Bonaparte devotes nearly a page to Mauri and his work and his reason for dedicating this new species to him. Here evidently is the key to the situation. Bonaparte and Mauri were close friends, and when the latter died during the publication of the *Iconografia*, Bonaparte naturally took occasion to express his esteem of his former associate by naming a new species in his honor, and this happened to be a fish. Shortly afterward he also named a bird for him, but as it was not an Italian species it was not included in the "Fauna Italica". The name of this bird first appeared in a tabular list where there was no opportunity for explanation and perhaps in the mind of the author no occasion to repeat the statement already given at length under *Smaris maurii*. But this great work in Italian is not generally accessible to English readers, and ornithologists seldom look for explanations of bird names in ichthyological descriptions.

Only a few months before his death, while on a visit to Berlin, Bonaparte succeeded in convincing Cabanis that his name *mauri* and Lichtenstein's *cabanisi* both applied to the long-billed sandpiper (*Journal für Ornithologie*, 1856, p. 420), and as a result the bird was described by Cabanis under the name *mauri* instead of *cabanisi*. The citation *Ereunetes mauri* Cabanis is unsatisfactory since it conforms neither with the rules nor the facts in the case. In the new edition of the Check-List the name properly appears as *maurii* and thus in the form that Bonaparte finally published it. Cabanis, however, did not originate the name but merely used the earliest available one in his description of the species. *Ereunetes maurii* (Bonaparte MS) Cabanis would express the circumstances better, as it was a manuscript name before publication and having been published as a *nomen nudum* it has no more standing than such a name. This is an illustration of one of the cases which are not adequately covered by existing rules.

Thus the little Western Sandpiper whose migration route is still obscure and which has for years borne a specific designation published in characteristic Bonaparte fashion, but the significance of which was unknown, recalls in reality the close personal friendship existing between an eminent Italian botanist and the Father of American Systematic Ornithology.

Washington, D. C., August 24, 1931.

FROM FIELD AND STUDY

Upland Plover Apparently Established in Oregon.—On the afternoon of May 16, 1931, while driving along a country road about four miles east of Ukiah, Umatilla County, Oregon, I saw an Upland Plover (*Bartramia longicauda*) perched on the topmost wooden stake used as a support in a rail fence. After stopping the car to view the bird better, I saw a second plover on the ground not ten feet away. The pair was collected and, upon dissection, was found to be in active breeding condition. On the following Saturday afternoon, May 23, 1931, while in Logan Valley, Grant County, Oregon, I walked across some wild hay meadows about a mile from the ranch houses and within an hour saw five Upland Plovers. At least one pair showed every evidence of having a nest nearby, as they circled about me, calling loudly a number of times. I feel quite confident that, had I had a little time to search the meadow, a nest could have been located. On the next day, May 24, 1931, while driving along a road in Bear Valley, Grant County, I saw a lone Upland Plover at a distance of about thirty feet as it stood on the top of an upright post in an old rail fence.

All three of these localities are on large stock ranches in mountain valleys at approximately 5000 feet altitude, and the most striking native vegetation in each one of them is the white Wyethia (*Wyethia angustifolia*) which during the time of my visits was in full bloom.

The fact that eight individuals of the Upland Plover were seen during such a brief and hasty survey of the region would indicate the presence of a considerable number of this species hitherto considered rare in eastern Oregon.—STANLEY G. JEWETT, Portland, Oregon, July 24, 1931.

"Office Aids" in Nest Building.—Early last spring the men in the general office of the Southern California Edison Company at Big Creek, Fresno County, wondered where all their clips, pins and such were disappearing to, when they discovered a pair of Cañon Wrens (*Catherpes mexicanus punctulatus*) were utilizing them in the building of their nest. By the time the roads opened, this eight-inch castle was completed and on my first trip out my attention was called to it. It was placed on a beam, ten inches beneath the ceiling at a place where another beam crossed it. Thus the nest stood against two solid sides, with a roof (ceiling) but two inches above the top of the nest.

Into the foundation had gone every small "office aid" that the birds' bright eyes had spied. They raised a family of four, two of the eggs not hatching. After the wrens deserted this unique home the men helped me to take it down. We had a few hilarious moments picking casually at the heterogeneous materials that had gone into its making. Not until I brought it home and carefully sorted and counted the various "makings" did we realize the stupendous effort the birds had expended upon it.

The foundation, four and one-half inches in height and five inches square at the base, contained the following items: 152 twigs and slivers of wood ranging in length from $\frac{3}{4}$ to 8 $\frac{1}{4}$ inches, with a diameter or breadth of from $\frac{1}{8}$ to $\frac{1}{2}$ inch; 15 lengths of straw, 1 $\frac{1}{4}$ to 8 $\frac{1}{4}$ inches long; 43 pine catkins; 4 pieces of wire insulation material, $\frac{1}{2}$ to 2 $\frac{1}{4}$ inches long; 14 Supreme paper clips; 1 Ideal paper clip, 3 inches in length; 628 Gem paper clips; 14 T pins; 1 two-inch safety pin; 582 common pins; 28 rubber bands; 1 three-coil spring; 1 screw top from LePage's glue container; 11 steel pen points; 19 thumb tacks; 2 small screws; 11 galvanized cup-head tacks; 1 carpet tack; 2 insulation tacks; 67 rusty nails; 2 small pieces of rawhide shoe lace; 1 three-inch darning needle; 69 Star paper fasteners; 3 small pieces of insulated wire; 27 pieces of wire (5 copper), all short; 1 steel tape tip; 87 matches (three unburnt); 4 toothpicks.

This grand total of 1791 countable things, while haphazardly placed, was held firmly by a filling of one-half pound of the following: Cobwebs, lint, dust, thread, sawdust, wood shavings, bits of paper, broom straw, twine, rope, plaster board, pine needles, splinters, shreds and pieces of pine bark, and asbestos, shells and gauzy wings of insects, an air-mail label, horsehair, small piece of walnut shell, triangle of glass ($\frac{1}{4}$ inch base and 1 inch in length), and an Eversharp pencil lead.

The nest proper was so firmly fastened to the foundation that it was not easy to dislodge. It was 4 x 5½ inches with an outside depth of 3½ inches. It was composed of very small pieces of straw, pine needles, string, rope, thread, and twigs. It was a solid mat made by clever filling of dust, lint, and dog and horse hairs. The upper two inches were very soft, made entirely of padding filched from mattresses. Into this was hollowed the cup for the eggs, 2½ inches across at the rim and 1¼ at the bottom, the depth being ¾ of an inch.

The nest proper weighed only an ounce, while that of the entire structure was two and seven-sixteenths pounds.

At the time I obtained this nest another was being built in a similar situation nearer to the opened transom through which the birds may enter or leave at will.

This bird was soon brooding, so we made no attempt to climb up to look at the nest closely. However it was not more than half the height of the one described above. This pair also had used "office aids" in the making of the foundation.—LILA M. LOFBERG, Florence Lake, Big Creek, California, August 22, 1931.

As to the Earliest Taking of Eggs of Townsend Solitaire.—In the July number of Yosemite Nature Notes the observations of Ranger-Naturalist B. A. Thaxter, upon the nesting of the Townsend Solitaire (*Myadestes townsendi*) in the Yosemite Valley, recall an incident of similar nature that may be of interest.

Early one morning of the first week in July, 1873, not far behind the guide, I was riding with a small touring party up the steep and narrow trail from the floor of Yosemite Valley, past Agassiz Column and Sentinel Dome, to Glacier Point. As we were rounding a precipitous mountain side a bird, strange to me, flushed from the steeply cut bank of the trail and fluttered past the head of my horse. A glance at the bank that my stirrup almost touched revealed four handsome eggs in a nest that was placed in a slight cavity of the rock, at about the level of my knee.

In my excitement over the discovery, surroundings were forgotten. I slipped from the saddle and squeezed down beside the nest, while the horse, fortunately a gentle one, went on with the procession. Suddenly realizing that I would "catch fits" for disturbing and delaying my companions and that there was nothing at hand in which the eggs could safely be carried, I grabbed a single egg, wrapped it carefully in my handkerchief and started up the grade to overtake the party, which was wrathfully awaiting my appearance at the first safe stopping place on the trail. That egg was carefully guarded all of that day and finally became the prize of the small collection that was turned over to my brother upon my entering college the following year, but which later on, well systematized and vastly increased in size, was again shared with him. Had I been able to bring home the whole set it would still be in the Mailliard Collection; but in June, 1880, Mr. F. C. Holman, a friend from boyhood's days and for seventeen years past a member of the Cooper Club, sent us a fine set of five eggs that he had found in the mountains of Trinity County, California, and the single egg, somewhat damaged, if I remember aright, was discarded.

It was a fortunate circumstance for me to be just beside the nest when the sitting bird's fear, aroused by the passing of the first two or three horsemen of the cavalcade, caused it to leave the nest and in its excitement to flutter past me almost within arm's length, in this way leaving upon my mind such a vivid impression of its markings as to lead to correct identification when home was reached and authorities were consulted.

In the several editions of Davie's Nests and Eggs of North American Birds that are in our library, including the fifth edition (1898), appears the following statement: "So far as I am aware, Mr. Wilbur F. Lamb took the first known eggs of Townsend's Flycatching Thrush [in later editions, Townsend's Solitaire]. This was in Summit County, Colorado, July, 1876, . . .". In the Geological Survey of California publication of 1870, entitled Ornithology, Vol. I, Land Birds, under Townsend's Flycatcher, on page 135, is the statement that the nest and eggs of this bird still remain to be described. Mr. Robert Ridgway, in one of his reports, recorded the finding, in July, 1867, of a nest " . . . on the western slope of the Sierras, at an altitude of five thousand feet. . . . It contained four young."

In view of the statements above quoted, it seems most probable that I, a boy of fifteen at the time, was the first collector to have the good fortune to come across a nest containing the eggs of the Townsend Solitaire.—JOSEPH MAILLIARD, *California Academy of Sciences, San Francisco, California, September 1, 1931.*

The Status of the Blue-winged Teal in California.—Grinnell, Bryant and Storer (The Game Birds of California, Berkeley, 1918, p. 121) considered the Blue-winged Teal (*Querquedula discors*) a rare transient and winter visitant on fresh water in California. These authors list twenty records distributed as follows: 3 in January, 1 in February, 8 from March to May, and 8 from August to October. Most of these occurrences were from south of the Tehachapi. Note the absence of records for the summer months of June and July.

Lamb (Condor, xxiv, 1922, p. 28) recorded the first Blue-winged Teal suspected of breeding in the state. He secured the male of a pair noted on Buena Vista Lake, Kern County, May 21, 1921. Dissection of the specimen revealed fully developed testes, indicating the probability that the birds were nesting there.

Dawson (Birds of California, De Luxe Edition, iv, 1923, p. 1770) records a pair of these birds observed at Laws, northern Inyo County, May 21, 1919, and states they were "unquestionably breeding."

Phillips (A Natural History of the Ducks, II, 1923, p. 376) considers this species an extremely rare breeder west of the Rocky Mountains and records but one breeding record for Washington and three for eastern Oregon. He states, "there is no evidence of its ever having nested in California, although it has been seen there in summer."

It is gratifying now to be able to add a number of summer records of the Blue-winged Teal's occurrence in California as a result of my field work in 1931 for the Division of Fish and Game. Although no nests were found or females with young positively identified, the circumstances and dates upon which the birds were seen seem to leave no doubt that the species breeds in the state.

June 12, 1931, a male and female of this species were observed through 8X binoculars, 75 yards distant on a small artificial pond, 4 miles northeast of Lancaster, Los Angeles County. A pair of Cinnamon Teal (*Querquedula cyanoptera*) was close by and afforded an excellent opportunity to contrast the species. Both pairs of birds were apparently nesting near this pond, as they would not leave it although driven to flight several times. Later the same day, three adult male Blue-winged Teal were noted on a small pond 7 miles north of Lancaster. One of them was collected and dissection disclosed well developed testes measuring 29 x 10 millimeters. Molt into eclipse plumage was just commencing on the neck and chest of this specimen.

June 22, 1931, two adult male Blue-winged Teal were noted on a small overflowed area at the northern edge of Honey Lake, Lassen County, 7 miles southwest of Wendel.

Eight adult male Blue-winged Teal were found on a small tule bordered pond three-quarters of a mile west of Amedee, Lassen County, June 24, 1931. It is possible some females of this species were also present, for in addition to the male blue-wings, four male Cinnamon Teal, four females of one or the other species and a single male Green-winged Teal made up a flock. It was indeed a rare sight to see all three species of North American teal on a pond less than an acre in extent.

July 1, 1931, a three-hour census was made of the waterfowl at the southwestern end of Tule Lake, Siskiyou County. Four pairs and two lone male Blue-winged Teal were definitely recorded, and a lone female examined through glasses at short range was judged to be this species on account of her small bill. One pair of these teal was collected. The female appeared to be a breeding bird, as down and feathers had evidently been plucked from her breast. However, her small ova, the largest measuring 7 mm. in diameter, and the fact that she was consorting with a male, made it somewhat doubtful if she was actually incubating. Perhaps she had an earlier nest destroyed and was preparing to lay again. The male was in breeding condition. His testes measured 21 x 9 mm. and molt had barely commenced on the neck and breast. During this census, 119 Cinnamon Teal were counted, including three broods of 11, 9 and 3 young.

The writer spent April 19 to 21 on the marshes in Honey Lake valley without noting a single Blue-winged Teal. A census was made at Tule Lake, April 26, 1931, covering the same ground as the July 1 count, when no individual of this species was seen. However, Cinnamon Teal were numerous at both places in April. These facts tend to indicate that Blue-winged Teal, known to be late nesters, are late arrivals on their California breeding grounds, though this premise is contradicted by Grinnell, Bryant and Storer's early spring records.

Hunters in Honey Lake valley state Blue-winged Teal are not rare in their bags; but like Cinnamon Teal, most specimens are obtained in early October and both species appear to have left the region by the end of that month.

In view of the data enumerated above, the present status of the Blue-winged Teal in California should be stated as follows: Fairly common breeding species east and south of the Sierra Nevada Mountains at least from the Mohave Desert north through the Great Basin region to Tule Lake; probably a rare breeder in the extreme southern San Joaquin Valley, formerly, at least. Apparently a late (that is, May) arrival on its breeding grounds. Rare in migration west of the Sierra Nevada and north of the Tehachapi, when it is not uncommon in suitable localities from Santa Barbara and Owens Valley south to the Mexican border. Probably entirely absent from the state in November and December; but early migrants may appear in the south in January.—JAMES MOFFITT, 510 Russ Building, San Francisco, California, July 30, 1931.

Golden Eagle Kills a Cat.—On July 18, of this year, while I was in San Felipe Valley in San Diego County, California, about fifteen miles southeast of Warner Hot Springs, I discovered the dead body of a full-grown domestic cat which had evidently been killed by an eagle. The cat was lying under an oak tree, and had been rather recently killed. Around it were signs of a life-and-death struggle—patches of fur and bunches of feathers. Among the last was a primary, the quill of which had apparently been split down. The cat's mouth was full of feathers. Also her viscera were torn out, and some substantial steaks removed from her hind quarters. I sent the leg feathers and the primary to Dr. Joseph Grinnell, at the Museum of Vertebrate Zoology, Berkeley, who identified the latter as a primary off the left wing of an adult female Golden Eagle (*Aquila chrysaetos*).—F. B. SUMNER, Scripps Institution of Oceanography, La Jolla, California, July 22, 1931.

Bones of the Great Horned Owl from the Carlsbad Caverns.—In making a survey of the natural history of the Carlsbad Cavern area Mr. Vernon Bailey of the Biological Survey, on April 26, 1924, obtained the skeleton of a Great Horned Owl under interesting circumstances. The bones, according to a note by Mr. Bailey that accompanied the specimens, were found on the first slope of the Devil's Den about two hundred feet below the surface and approximately half a mile from the west entrance of the cave, being so far from the outer opening as to be beyond all trace of light. The skeleton is disarticulated, and is nearly complete. It represents an adult individual that has the size of *Bubo virginianus pallescens*, and has been identified as of that race. The specimen has no particular antiquity, being identical in appearance with fresh skeletons. This skeleton is now in the collection of the United States National Museum (cat. no. 289431).

In work in this same area in 1930, Mr. Charles D. Bunker, Assistant Curator in charge of the Museum of Birds and Mammals at the University of Kansas, secured another partial skeleton of the Great Horned Owl under still more peculiar conditions. These bones were obtained in a hole about seventy-five feet below the floor of the bat room and about 250 feet below the surface where they were scattered over an area that had been subject to the drip of water impregnated with mineral so that they were encased in a covering of mineral matter from one and one-half to two millimeters thick. Possibly the bird had been dragged to this level by some predatory animal, as Mr. Bunker states that it would have been difficult for it to arrive there unaided. The greater part of this skeleton was found. The bones come from an immature individual that while fully grown did not have the skeleton

completely ossified. The fact that they are embedded in stone does not seem to indicate great antiquity, as they still contain much animal matter and are supposed to be comparatively recent in origin. This specimen has been returned to the collections of the University of Kansas.

As these owls ordinarily only frequent those sections of caverns near the entrances it has been interesting to find these remains under circumstances that possibly indicate that the birds had become lost and had been unable to regain the outside world.—ALEXANDER WETMORE, *Smithsonian Institution, Washington, D. C., August 24, 1931.*

Records for Several Species of Birds Rare or Local within Costa Rica.—*Spiziastur melanoleucus*. An adult male was taken at El Copey de Dota in the first week of June, 1931. It was perched on a tree at the edge of a forest. The altitude was about 7000 feet. This constitutes the sixth or seventh specimen of which I can find any record. This splendid hawk is apparently entirely a forest dweller, glean- ing most of its prey in the tree-tops. The present specimen is now in the Henry O. Havemeyer collection.

Glaucidium jardini. An adult male of this owl was caught by hand, while perched in a low tree that grew along a trail near Estrella de Cartago, in June, 1931. It was at 4000 feet altitude in the humid Caribbean sub-tropical zone.

Cryptoglaux ridgwayi. Under this name I list a female adult of a small, plain-colored owl, taken in the heavy forest above El Copey de Dota, at an altitude of 7500 feet. The type of the species is a juvenile; and up to now this has seemingly remained unique. My specimen fits the description of the species fairly well, considering the difference in age. El Copey lies only 30 miles southeast of Escazu, the type locality; but the altitude of the first named is considerably greater. This specimen is now in the collection of Henry O. Havemeyer of New York.

Thryorchilus basulto. A wren of the temperate zone, that has heretofore been known only from the type; an adult female was taken at Las Vueltas, Costa Rica. Las Vueltas is the name of a large ranch lying between the heavy oak forest and the brush covered paramo, forty miles southeast of San José.

On May 7 and 8, 1931, I saw several examples of this wren on a brush covered savanna at an altitude of 10,500 feet. Two were secured, both males, one adult, the other evidently immature; but both in unworn plumage. They were shot from the tops of bushes about eight feet in height; not observed at any time on the ground. Thus, this species differs from its congener, *Thryorchilus browni ridgwayi* of the volcanoes Irazú and Turrialba of the central tableland, which favors terrestrial situations. The male adult of *T. basulto* is now in the Havemeyer collection.—AUSTIN SMITH, *San José, Costa Rica, July 20, 1931.*

An Unusual Date for the Occurrence of the Young of the California Quail.—Mr. William Lippincott, Captain of Patrol of the California Fish and Game Commission at Eureka, Humboldt County, California, reports the following extraordinary nesting record for the California Quail (*Lophortyx californica*). On January 10, 1931, while patrolling along the Eel River near Scotia, Mr. Lippincott in the company of Deputy Game Warden Feland came upon a pair of adult quail with eight or nine young apparently not more than ten days old. This would mean that the eggs for this brood of young were laid during the first part of December and that, if any conclusions are properly to be drawn from the record, it is probably a late rather than an early one. If such is the case it is again interesting to observe the tenacity with which quail hold to the breeding instinct, making repeated efforts until finally successful in bringing off a brood.

Mr. Lippincott describes the weather during the thirty days prior to the discovery of the quail as having been generally damp and stormy, fog intervening with the storms. The country at this point along the river is composed of small ranches including alfalfa and beet fields with plenty of cover for quail. Among the latter, Mr. Lippincott particularly mentions the wild blackberry. The elevation is approximately 150 feet.—LAWRENCE V. COMPTON, *Museum of Vertebrate Zoology, University of California, Berkeley, September 23, 1931.*

Robins Nesting in Monrovia, California.—About June 25, it was reported to us by neighbors in Monrovia, Los Angeles County, that a pair of Robins (*Planesticus migratorius propinquus*) was nesting in their yard. We investigated and found that the adults, accompanied by four speckled-breasted youngsters, had been seen frequently by the owner of the property. They fed on a lawn near a grove of trees. Previously, the parents had been observed carrying food away from the yard, although the nest was not located. We were able to see the parents digging for worms on the lawn, but in the limited time available for observation, the young birds did not appear. As the description given us of the young birds is correct and the older birds were positively identified, there seems little cause to doubt that the young were raised in this vicinity.—IRENE WILSON and BERRY CAMPBELL, *Monrovia, California, August 18, 1931.*

American Egret in Colorado.—While making motion films for the Chicago Academy of Sciences and the Colorado Museum of Natural History, on the property of the Mile High Gun Club, near Denver, we saw an American Egret (*Casmerodius albus egretta*) feeding along the shores of one of the lakes. A Snowy Egret (*Egretta thula brewsteri*) and several Treganza Herons (*Ardea herodias treganzai*) were within a few feet, giving us an excellent opportunity to compare the sizes of the different birds. So far as we know, this is the first record for Colorado.—ALFRED M. BAILEY and R. J. NIEDRACH, *August 1, 1931.*

Cowbirds in the Sacramento Valley.—In studying the bird life of the marshes at Marysville, since October, 1930, I at first had no thought of the Cowbird, for some reason thinking that it did not inhabit this area. A surprise was experienced therefore when on November 7, 1930, while collecting blackbirds for food-habit studies I fired into a flock of Red-wings, and upon picking up the kill found two Cowbirds. A few days later I collected another. I sent a skin to Dr. Joseph Grinnell and inquired about the matter. Under date of January 19, 1931, I received a letter from Dr. Grinnell stating that the skin sent him was *Molothrus ater artemisiae*, the Nevada Cowbird, and recommended that I report the find.

The following records of Cowbirds taken or observed during the period between November 7, 1930, and June 1, 1931, are now presented:

November 7, 1930, 7 miles northeast of Marysville. Adult female killed when I shot into a flock of *Agelaius phoeniceus californicus* and *A. p. nevadensis* feeding in rice stubble. An adult male was wounded at the same shot, but as I stooped to pick it up it flew away.

November 15, 1930, 6 miles northeast of Marysville. Adult female shot from flock of blackbirds of mixed species feeding in rice stubble.

December 10, 1930, 9 miles northeast of Marysville. Adult male shot from flock of blackbirds feeding in rice stubble; this was the specimen sent to Dr. Grinnell. Another male was collected in an adjacent field.

January 30, 1931, 8 miles northeast of Marysville. Two adult males shot from flocks of blackbirds in the rice stubble.

February 25, 1931, Spaulding Ranch, 8 miles south of Willows. Four males and three females were seen to leave a group of blackbirds feeding in the rice stubble and fly into a large pear tree immediately over my head where I watched them for a time and listened to their calls.

March 28, 1931, 5 miles east of Woodland, on Conoway Ranch. One adult male was seen perched on the brace wire of a power pole.

April 2, 1931, Conoway Ranch, Woodland. Heard and saw Cowbirds several times, but I was unable to estimate their numbers.

April 3, 1931, Conoway Ranch, Woodland. Collected one male and heard several others.

April 8, 1931, 5 miles northeast of Marysville. One male observed perched on a tall cat-tail stalk.

April 10, 1931, 4 to 8 miles northeast of Marysville. Five Cowbirds were seen in three different parts of the rice area, all in company with *Agelaius tricolor*.

April 12, 1931, 7 miles northeast of Marysville. One adult female collected in a rice field where it was feeding on seed rice.

April 13, 1931, 4 miles northeast of Marysville. Two males were seen and heard on the wing.

April 14, 1931, 4 miles northeast of Marysville. One male was collected, two males and three females watched feeding on the bare checks in a rice field.

April 15, 1931. One female collected 4 miles northeast of Marysville, and three were seen perched in a dead willow in a pasture about 10 miles from town.

April 16, 1931, 5 miles northeast of Marysville. Two collected; one female showed considerable development of ovaries. Saw at least six others flying about or perching on fence posts near an adjacent rice field.

April 17, 1931, Marysville rice area. Two males seen on fence 4 miles from town; two males, 1 female seen feeding in rice field 9 miles from town.

April 18, 1931, Spaulding Ranch, 8 miles south of Willows. Three males were observed perched in the same pear tree as those noted in February.

April 19, 1931, Marysville rice area. Two males were seen perched in a dead willow in a slough 10 miles from town.

April 21, 1931. One male seen in the same tree as noted on April 19.

April 22, 1931, 4 miles northeast of Marysville. Two males perched on a wire fence.

April 23, 1931. At various points in the Marysville rice area I observed a total of eleven Cowbirds.

April 24, 1931, Marysville. Three females.

April 25, 1931, Marysville. Seven birds.

April 27, 1931, Marysville. At one point I counted five on a wire fence; at another I collected five, three males and two females, and in a dead tree close to the latter I counted twenty-two at one time.

By this time I tired of recording daily numbers, as they seemed to be too abundant to warrant it. From May 1 to May 14 nearly every morning I heard, and often saw, a pair which seemed to have a definite patrol through the residence area of Yuba City, generally alighting in some of the taller trees on my lawn. During this period I also saw variable numbers every day in the rice area.

On May 14, I went to Berkeley and did not get back into the rice area until May 18. I failed to find any more Cowbirds until May 21 when I saw four, three males, one female, in a barnyard feeding almost under the feet of a Plymouth Rock hen which was scratching in a chaff pile with her chicks.

On May 22 at Abbott Lake, Sutter County, I was attracted by the agonized calls of a Yellow Warbler, and on approaching could see the pair of warblers fighting some larger bird high up in a cottonwood tree. After a time the invader flew, dropping downward immediately over my head; it proved to be a female Cowbird. Here, I thought, was my chance to locate the eggs of the Cowbird, but a long search failed to locate the warbler's nest. However, from the actions of the Cowbird I had no doubt as to her purpose, as so many times I have watched the eastern form at its sneaking work.

On May 23, I again heard the pair in the trees on my lawn in Yuba City, and saw or heard them almost every morning until June 1. On May 26 in the rice area northeast of Marysville I saw three birds on a dead tree in a ranch yard, two on a fence along a rice field, and a pair hunting in a cat-tail area to the acute distress of a pair of Song Sparrows. On May 27, on the same area, about seven birds were seen.

The specimens collected in April were used for food studies and the skins were not saved, since available books listed *M. a. californicus* as ranging far to the south of this area, and I thought all the birds were of the *artemisiae* group. After my return from Berkeley I obtained a copy of the paper by Dickey and van Rossem (Condor, xxiv, 1922, p. 206), and upon first opportunity to study it I discovered that these authors prophesied that the *californicus* type would be found in the Sacramento Valley. This information caused renewed interest in the status of the Cowbirds here, and I regretted very much that I had not saved skins of the spring visitants.

On May 28, I saw seven birds in the rice area, and was able to collect a female. This bird contained one egg fully developed except for the shell. I sent this skin

to the Museum of Vertebrate Zoology after my own personal examination had suggested that its measurements checked closely with *M. a. californicus*; under date of June 4, Dr. Jean M. Linsdale advised me that this specimen proved surprising, falling more nearly into the average of the race *obscurus*, and stated that "your bird is actually smaller than the average given for *obscurus* in all the measurements listed by Dickey and van Rossem". However, considering all the circumstances he referred the specimen to *californicus*.

The Cowbirds present during the winter, and until late April, consorted entirely with the flocks of blackbirds, flying, feeding, and roosting with them. In late April, while continuing to be with the blackbirds, they began to drift apart in groups of their own kind. Late in May they appeared in pairs. The first sign of the nest-hunting instinct was that described on May 22. Continued search has failed to reveal their eggs, but the female collected May 28 proved the breeding status.

It appears that a considerable series of skins must be collected before we can definitely report the exact status of these birds, and give definite information on the two races. In any case the summer type will prove quite an extension of the breeding range. I hope to be able to present further data in a later report after I have studied these birds through another migration period. Other observers in the Sacramento Valley should also accept this opportunity to clarify the status of this group.—JOHNSON A. NEFF, Bureau of Biological Survey, Marysville, California, June 10, 1931.

Red-breasted Merganser in Orange County, California, in June.—Rather hasty reference to available literature indicates but one summer record of the Red-breasted Merganser (*Mergus serrator*) for California (see Squires, Condor, XVIII, 1916, p. 232). Therefore it seems desirable to record four individuals of this species positively identified on the grounds of the Bolsa Chica Gun Club, Orange County, California, June 9, 1931. The birds were swimming on a slough one mile south of Sunset Beach and were scrutinized at close range through binoculars. All appeared to be immatures in ragged plumage; one male had assumed but a trace of breeding plumage. No doubt immature and non-breeding individuals of this species remain along most of our coastline in summer, as do scoters and other ducks that breed far north but do not mature until the second summer.—JAMES MOFFITT, 510 Russ Building, San Francisco, California, August 3, 1931.

Re-use of its Nest by Spotted Towhee.—An instance in which a San Francisco Spotted Towhee (*Pipilo maculatus falcifer*) re-used its first nest for a third brood was brought to my attention in Palo Alto, California, by a friend, Miss Olga Bandel, who followed very closely the "doings" of a pair of this species which nested and raised three broods in her yard during the season of 1931.

The first nest was constructed early in May among some geranium bushes growing against a private garage. After the young had been successfully reared and had left this first nest, a second nest was built closer to the house in a hedge of cherry oak some thirty feet from the first one. The young left this second nest about July 10. Within a week after the departure of the young from the second nest, the parents returned to the first nest and successfully raised a third brood therein, the young of the third brood leaving the nest on August 9.

Miss Bandel closely observed these birds daily, sometimes for several hours at a time, and became so acquainted with their individual actions and characteristics that she knows definitely that it was the same pair of birds that raised all three broods in her yard.

It has been my impression and I believe that of others that our native song birds which build nests in the open, seldom use a nest again after the young have left. This instance shows the value of continued observation of a pair of birds throughout their nesting season—without which, occurrences of this kind would not be known.—EMERSON A. STONER, Benicia, California, August 25, 1931.

Nesting of the Bohemian Waxwing in British Columbia.—While in the Atlin District, northwestern British Columbia, Canada, during July, 1931, it was my good fortune to find several nests of the Bohemian Waxwing (*Bombycilla garrula pallidiceps*). The account given by Mr. H. S. Swarth (in Univ. Calif. Publ. Zool., vol. 24, 1922, pp. 266-285) is so complete that but little can be added except that I secured both larger and smaller eggs than any reported by him or in any other records that



Fig. 61. TYPICAL NEST AND EGGS OF THE BOHEMIAN WAXWING ON TOP OF DOWNWARD DROOPING BRANCH OF SMALL BALSAM FIR; UP 8 FEET AND OUT 20 INCHES FROM TRUNK. COLLECTED AT ATLIN LAKE, BRITISH COLUMBIA, JULY 14, 1931.

I have noticed. The set containing the largest eggs measured, in millimeters, as follows: 27.5×19.1 , 27.2×19.4 , 27.1×19.1 , 26.8×18.6 , 26.6×19.1 , while the set containing the smallest eggs measured 22.8×17.7 , 22.1×17.7 , 21.9×16.9 , 21.4×17.6 . The average dimensions of the eggs I collected were only 24.1×17.7 , while those reported by Mr. Swarth were 25.5×17.7 . Dawson in his "Birds of California" reports the average size of eggs as 24.9×17.5 .

I failed to find a mass of nest material hanging below the nests (see fig. 61), this feature being conspicuous in the nests found by Mr. Swarth in the Stikine region.

Nests contained from three to five incubated eggs or young and I judge that four is the average complement. Usually the sitting bird could almost be touched on the nest, and in most cases after being disturbed it would be joined by the mate in making a fuss and would soon return to its nest while I was at the base of the tree. Bonaparte Gulls, Short-billed Gulls, and Spotted Sandpipers had been nesting in close proximity to all of the nesting sites of the waxwings, and their concern over their young was so great that their calls almost drowned out the faint notes of the waxwings.—WILSON C. HANNA, *Colton, California, August 29, 1931.*

Another Example of Frailty in Mourning Dove Nest Construction.—For a Mourning Dove to build a very scanty nest, from which one or both eggs may roll, is a characteristic of this bird's nesting habits; but when I observed a case where both eggs were pushed straight through the bottom of the nest by the sitting bird when suddenly flushed, I considered that this was "the limit".

This nest was not especially lacking in volume considering the small quantity of material used in nest construction by these birds, but it was so carelessly put together among some shoots on a willow limb that the bottom of the nest offered insufficient resistance when the bird sprang into flight from her nest.

Both eggs lit in the fine sand of the river bank below, one remaining in perfect shape after a seven foot drop and the other receiving a fracture of the shell. I endeavored to return them after shifting a few of the weed stems composing the nest, doing this while on tiptoe; but I found I was as poor a nest constructor as the birds, one of the eggs again falling through and the other remaining in a precarious position among this small handful of weed stems which the doves had passed upon as being a satisfactory domicile.

The above note refers to the Western Mourning Dove (*Zenaidura macroura marginella*), the nest being found in southern Merced County, California, on May 24, 1931.—EMERSON A. STONER, *Benicia, California, September 3, 1931.*

Another Record of the Rose-breasted Grosbeak from California.—My story commences at Soquel, Santa Cruz County, California. Here, on July 29, 1931, I called upon Mr. Henry Francis Lorquin at his "taxidermy and fur-dressing" shop on the highway half a mile or so east of the center of that town. The name Lorquin is well known to old-timers in western natural history circles; for the present Lorquin (born in San Francisco, December 11, 1862) is the son of Ernest Frederick Lorquin (died 1909) who maintained a taxidermy shop in San Francisco a great many years, until destroyed by the fire of 1906. Many specimens of birds were prepared and sent out to various persons and institutions from this establishment. H. F.'s grandfather was Joseph Lorquin, famous as an entomological collector, who came to San Francisco in 1851. (See also Essig, "A History of Entomology", Macmillan, 1931, p. 694.)

In course of conversation, Mr. H. F. Lorquin remarked that he had known Edward Garner, the one-time taxidermist of Quincy, California. An account of Garner and his collections has been put on record by Dr. Harold C. Bryant (Condor, 22, 1920, pp. 32-33). Mr. Lorquin stated to me that he and his father originally taught Garner how to make bird-skins, and this proves to be in fair agreement with what Bryant records.

It further developed that Mr. Lorquin had a small collection of bird-skins given him by Garner some time prior to the latter's death, which occurred "about five years ago". I went over these bird-skins with some interest and finally selected three which Mr. Lorquin allowed me to take away. These I have turned in to the Museum of Vertebrate Zoology, so that there might be represented here some of Garner's collecting. There is only one of these specimens of much more than this personal and historical interest, and this one gives main excuse for the present note.

The bird in question is a Rose-breasted Grosbeak (*Hedymeles ludovicianus*) bearing a label inscribed in Edward Garner's handwriting. This label indicates that

the bird was taken at Quincy, Plumas County, California, August 5, 1891. While it is marked "juv. ♂", it is a male of more than one year's age, being in molt from first nuptial to adult winter plumage (see Dwight, *Annals N. Y. Acad. Sci.*, 13, 1900, p. 209). I am unable to find in this specimen (no. 57969, Mus. Vert. Zool.) any differences from Eastern-taken examples of the same species.

This record adds a third definite locality of occurrence of the Rose-breasted Grosbeak in California, the other two stations being Myer's, Humboldt County, and Palm Springs, Riverside County. The attested dates are July 1, 1897, and September 10, 1897, respectively. (See Grinnell, *Pac. Coast Avif.* No. 11, 1915, p. 135.) The additional record for the '90's gives no ground for adding to the speculations of Dawson (*Birds Calif.*, 1, 1923, p. 418). But the enquiries of Mailliard (*Proc. Calif. Acad. Sci.*, ser. 4, 12, 1923, p. 13) in Humboldt County much more recently, while not leading to anything much more conclusive, make one suspect that this grosbeak really has claim to more than "casual" status on our California state list of birds.—J. GRINNELL, *Museum of Vertebrate Zoology, Berkeley, July 31, 1931.*

Nesting of the Pacific Harlequin Duck in Oregon.—On May 30, 1931, at a summer home of friends on the Salmon River, on the west slope of Mt. Hood, Oregon, I observed a female Harlequin Duck (*Histrionicus histrionicus pacificus*) feeding among the rocks in the clear, rushing stream in front of the house. This bird was unusually tame and allowed a group of four people to approach within twenty feet before she became suspicious and swam leisurely to the opposite side of the stream, diving and feeding calmly as she moved away.

The next day, May 31, 1931, while sitting on the porch of a summer home on the Zig-Zag River, a tributary of Salmon River, about seven miles above the place of the previous day's observation, I saw a female Harlequin alight on the rushing stream a few yards from the house. I followed this bird as it swam and floated down stream about a hundred yards to where a small boy was fishing. I called the boy's attention to the duck and he at once told me that its nest was just below where he was standing. Investigating, I found the nest located in the debris on top of a large stump of an Oregon alder tree that had been dislocated by a recent spring flood. The tree, roots and all, had been washed out of the bank and carried to a gravel bar in midstream, where other drift had lodged among the roots. The nest was about three feet above the surrounding gravelly and rocky stream bed, but was well concealed by roots and drift from the stream. It was composed of a few dry rootlets well lined with the parent's down and a few feathers, and it contained six slightly-incubated eggs. The boy, who had located the nest the day before, told me he had caught the parent female on the nest, lifted her off and turned her loose, but that she had soon returned. No male Harlequin Ducks were seen on either the Salmon or Zig-Zag rivers during my stay there on May 30 and 31.—STANLEY G. JEWETT, *Portland, Oregon, July 25, 1931.*

Record of an Unknown Woodpecker from the Lower Pliocene.—From the Colorado Museum of Natural History of Denver, Colorado, the writer has received for examination a fossil avian ulna of a bird that is identified as a woodpecker (Family Picidae). The specimen in question, Colorado Museum of Natural History catalog no. 1262, was collected in what are known as Devil's Gulch Beds, attributed to the Lower Pliocene, near Ainsworth, Nebraska, by James Quinn, and was forwarded by Morris Skinner. It consists of about seven-eighths of the ulna from the right side, the proximal end together with the tip of the articular surface on the distal end being missing. The bone is fossilized and is white in color.

The strongly developed tubercles for the attachment of the secondary feathers determine the specimen at a glance as a woodpecker, and on careful examination it appears that it represents a species in the Colaptes assemblage of genera. While generally similar to the flickers of the genus *Colaptes* it is matched more closely in spacing of the tubercles, size, and conformation by the ulna of *Chrysoptilus melanolaemus* of South America as shown by a specimen of *C. m. nigroviridis* (U. S. Nat. Mus. no. 227386).

In view of the fact that the ulna is not considered by the writer as a bone ordinarily exhibiting much character for the differentiation of species no attempt is made to identify this fossil except as to group. It is, however, of definite interest in showing the existence of a species of woodpecker of flicker-like affinities in Lower Pliocene times in North America. The Red-shafted Flicker, Lewis Woodpecker, and the Pileated Woodpecker have been reported fossil from Pleistocene deposits, but there are no other records of fossil occurrence of the Family Picidae for the North American continent, *Uintornis lucaris* Marsh which has sometimes been considered a woodpecker being a species of uncertain family affinity from present information. Two species of *Picus* have been described from the Oligocene and one from the Miocene of France.—ALEXANDER WETMORE, *United States National Museum, September 8, 1931.*

The White-winged Scoter, a New State Record for Kansas.—On November 21, 1927, William Sanderson, a sportsman of Lawrence, Kansas, while hunting ducks on the Kansas River killed a female White-winged Scoter (*Melanitta deglandi*). Mr. Sanderson, realizing that the bird was unusual, brought it to the Museum of Birds and Mammals, University of Kansas, for identification. Upon learning that the specimen was a new record he donated it to the museum where it now is preserved as a skin, number 17125.

Approximately one year later, in November, 1928, Mr. C. J. Saunders, also of Lawrence, killed four White-winged Scoters while hunting on the river. These birds were discarded as being of no food value and they lay in the open for a month or so before being turned over to the museum. They were then in an advanced stage of decomposition, so were prepared as skeletons and were not identified as to sex. The exact date upon which they were taken was not known. These specimens bear University of Kansas Museum numbers 17769, 17773, 17775, and 17779.

The approximate locations, only, were given for the five birds as being a few miles up the Kansas River from Lawrence, Douglas County, Kansas. Acknowledgment is here made to Mr. C. D. Bunker, in charge of the University of Kansas Museum of Birds and Mammals, for permission to report this record.—LAWRENCE V. COMPTON, *Museum of Vertebrate Zoology, University of California, Berkeley, September 24, 1931.*

Wood Ibis in Modoc County, California.—Deputy Fish and Game Warden A. A. Jordan, of Alturas, sent the head and leg of a juvenile Wood Ibis (*Mycteria americana*) in to this office August 17. In a letter of that date, Mr. Jordan stated there were three of these birds on Ballard Reservoir in early August. Someone shot one of the birds which Jordan found a few days later when he sent in the fragments. He stated the birds were light cream color, bluish black on wing tips and brown on head and part way down the neck, so all were evidently juveniles. The head of the specimen received was well covered with grayish brown feathers, indicating its immaturity.

Ballard Reservoir is approximately four miles southeast of Canby, Modoc County.

This occurrence greatly extends to the northward the known range of the species in California. J. G. Cooper (Auk, iv, 1887, p. 90) recorded its occurrence north to San Francisco Bay and the San Joaquin Valley where it has been reported but once since, near Fresno (Tyler, Condor, xxi, 1919, p. 127). It apparently strays farther north in the Rocky Mountain region where recorded from Montana and Wyoming by Bent (U. S. Nat. Mus. Bull., 135, 1926, p. 65), and more recently by Skinner (Condor, xxviii, 1926, p. 99).—JAMES MOFFITT, *Division of Fish and Game, 510 Russ Building, San Francisco, California, August 21, 1931.*

EDITORIAL NOTES AND NEWS

The new, Fourth Edition of the American Ornithologists' Union Check-list of North American Birds was off the press on October 1. After an interval of twenty-one years since the Third Edition appeared, we again have a down-to-date distributional summary of American ornithology. In all, 1420 species and subspecies are listed in regular standing, and besides these there is a hypothetical list, a list of changes, additions and eliminations in comparison with the preceding edition, and an extensive list of fossil species. An entirely new sequence is followed, and indeed the new Check-list throughout is essentially a different work from any of the preceding editions. Copies, cloth-bound, 526 pages, may be obtained from the A. O. U. Treasurer, Mr. W. L. McAtee, Cherryvale, Virginia; price \$4.00, which covers bare cost of printing and binding. Every Cooper Club member should have a copy of this new Check-list at his immediate command; and each really active bird student should own *two* copies, one to keep as a library copy, the other to use as a working copy --to interline, add to, correct and generally keep down to date during the interval until the next, *fifth* edition appears, whether this be ten or twenty years hence.

To Florence Merriam Bailey, Honorary Member of the Cooper Ornithological Club and Fellow of the American Ornithologists' Union, has come a crowning recognition. By unanimous action of the Council of the A. O. U. at its meeting at Detroit on October 19, 1931, Mrs. Bailey was awarded the Brewster Medal as the author of the most important work relating to the birds of the Western Hemisphere published during the preceding six years. This medal is awarded biennially, and the basis of the award in the present instance was Mrs. Bailey's "Birds of New Mexico". Especially inasmuch as this work was a Western undertaking, fellow Cooper Club members will join heartily in congratulating the author upon the distinction she and her work have won.

Early in August the National Association of Audubon Societies issued a call for a Nation-wide closed period or moratorium, on the shooting of waterfowl during the entire season 1931-32. The reason for this proposed action was the exceedingly good one that prolonged drouth conditions in the northwestern United States and western Canada during the preceding breeding season had seriously interfered with the reproduction of wild ducks and geese of many kinds. As it now happens this failure of the "crop" is followed by conditions of extreme water-shortage on the wintering grounds of the birds, due to lack of rainfall. If shooting were to be carried on as usual on the greatly reduced wintering grounds, the breeding stock of some of the rarer species, for the following year, would be so depleted that it would likely never recover. The Audubon Societies' proposal was that the United States Department of Agriculture exercise the power with which it is vested under the Migratory Bird Treaty Act in order to bring about the needed closed season of 1931-32. This proposal was backed not only by very many ornithologists, and organizations devoted to bird study including the Cooper Club (see p. 261), but it was approved by certain true sportsmen who are aware of the seriousness of the situation. Unfortunately the eastern authorities saw fit to recommend, not complete closing of the season, but a reduction of the season to one month. We in the West know that this will simply mean concentration of the hunting in the small remaining territory mostly taken up by gun-clubs, many of them "commercial" ones, with very little real respite in sight for the ducks. This one-month open season was confirmed by Executive proclamation and is now in effect--in California, November 16 to December 15, inclusive.--J.G.

By authority of the Division of Fish and Game the Western Bird-banding Association desires to make the following announcements to California banders. As in the past, permits are to be issued by the Association, subject to the approval of the Division, but the issuing power,

instead of being personally vested in the recent president, Mr. Robertson, at Buena Park, is now to be exercised by the Association corporately from its Berkeley offices in the Museum of Vertebrate Zoology, whence application forms may be obtained. Three changes in the nature of the permit will be made on December 31, 1931. First, the old letter-size sheet will be replaced by a small printed card, much like the state and federal scientific collecting permits. Second, permits will cease to expire automatically at the end of the current year, but remain valid as long as no reason for revoke arises. Third, summarized returns, to be submitted to the W.B.B.A. on the regular schedule forms provided for the purpose, become official requirements, on a par with Federal returns, and failure to make such returns on or about the end of each calendar year, or to note on the same forms the reason for any temporary suspension of activities, results in the automatic cancellation of the permit. The latter provision, which lays the foundation for a great state collection of banding records, under the custodianship of the W.B.B.A., was believed to be of the greatest value in itself, and at the same time to make possible the convenience of unlimited permits, by forming a check on the considerable class of permittees whose activities are short-lived, but whose forgotten permits should not, from the point of view of the law-enforcement branch or those responsible for the proper conduct of banding, be scattered at large about the state.—WESTERN BIRD-BANDING ASSOCIATION.

CURRENT DISCUSSION

"PESTS" AND AGRICULTURE

In the May issue of *The Condor*, there appeared an article by Dr. Linsdale giving some rather startling facts concerning the use of poisons in destroying so-called pests. To those of us who have kept in touch with this situation during the past several years, it would now appear certain that much of California's wild life is doomed to early extinction from this cause. Whether or not our native fauna is of any value to this very materialistic age may be a debatable question. Certainly it is one that the public must soon settle, if indeed, it has not already been settled by indifference.

There is one angle of this matter of poisoning which has not received much attention in the press but which is the cause of considerable worry to the farming interests of this State. Pest destruction has or should have as its object the creating of conditions making possible the production of more crops usable as human food or as articles for sale or barter, with other countries. At the present time, however, the enormous expense of pest destruction cannot be justified from that standpoint. The words "*surplus*" and "*overproduction*" have been heard on every hand during the past few crop seasons and we have been given to understand that the present crisis in agriculture is due to a failure of the domestic and foreign markets to consume all of the farm products which have been harvested. Last year the Federal Farm Board was reported to have expended a sum in excess of one hundred million dollars for the purchase of surplus wheat. A few weeks ago press dispatches announced that this same agency had advised cotton growers to plow up a large part of the present cotton crop or else be prepared to accept ruinous prices if the entire acreage was allowed to mature. In the autumn of 1930 several thousand carloads of California grapes for which no market could be found were purchased by this same Federal agency or one of the Boards created by it. A vast amount of these grapes was allowed to hang on the vines throughout the entire fall and winter and to become the breeding place for sufficient insects and fungous diseases to keep the pest-destroying squads busy for many months. Numerous other examples of this sort could be mentioned if space permitted.

As previously stated, we are passing through a most disastrous agricultural crisis. Several major problems confront us—problems important enough to require the serious thought and effort of everyone. In the face of such conditions it is little wonder that our farmers are murmuring against the large number of overlapping organizations—some private and many official—which are at the present time assiduously attacking minor and relatively unimportant problems most of which, even though they might be completely solved, would still leave agriculture bankrupt and its major problems still to be worked out.

Most farmers, we believe, are fully aware of the fact that it is not the function of a County Inspector, a State Agent, or a paid poisoner of the Biological Survey to attack marketing problems; but it is not surprising, in the face of present conditions that a constantly growing demand is heard on every hand for the complete overhauling and reorganization of all State and Federal agricultural agencies and the reforming of all in such a manner as to make them sufficiently flexible to allow a massed attack on the real problems of the California farmers.

One example of the effect of misapplied zeal, and we will close.

A few years ago a great hue and cry went up in the interior valleys of this State over the reported great destruction of fruit buds by bird pests. Poisoning and shooting were resorted to. Bounties were paid (unofficially) according to press reports on over 300,000 birds. The success of the venture exceeded the fondest expectations of the promoters and full vindication of the wisdom of the plan came when the State Crop Reporting Service announced that some *ninety thousand* tons of peaches, alone, matured—then fell to the ground and rotted because there was no market for them!

These are trying times for our farmers. Thousands of them have lost not only their ranches but their homes as well. Other thousands are facing the same tragedy unless relief comes quickly. In the face of such conditions it is not an inspiring sight to witness great expenditures of money and man power along lines which have only the most remote connection with the solution of agriculture's major problems. Suggestions regarding moratoria seem to be coming from various sources regarding numerous issues, and there are many farmers who believe it is high time to call an immediate moratorium on the present overworked practice of expending funds on unnecessary measures—most of which had better be deferred, according to current belief, until our farmers have become financially able to carry such burdens.—JOHN G. TYLER, *Fresno, California, September 1, 1931.*

"MORE GAME BIRDS IN AMERICA, INC."

The Western Bird-banding Association has lately received the rather extensive

syllabus which outlines the program of "More Game Birds in America, Inc." for the inauguration of the shooter's Utopia into which the United States and Canada are to be transformed. Of the organization in question the present document tells us nothing, but we understand that it consists of a heavily-backed, largely eastern, group who are prepared to launch, and indeed have launched, a large-scale campaign of education, research and propaganda leading to the end which their vision depicts.

It goes almost without saying that increased *protection* is to have no part in the matter, which is to be removed entirely from the inadequate hands of Mother Nature. *Propagation*, rather, is the word to conjure with, and it is probably a fact that game bird propagation in its scientific and commercial aspects has advanced farther and perceived a rosier future in America in the brief span of life of this organization than it might otherwise have done in half a century. Nine booklets on Game Propagation, Gun-club management, etc., have already been issued, and research stations are maintained.

The Foundation harmonizes with the suggestions made by Aldo Leopold in his recent *Game Survey of the North Central States*, made for the Sporting Arms and Ammunition Manufacturers Institute, in the proposal that propagation shall ultimately be handed over, in well-tested and practical form, to the farmer, who is to keep his own lands stocked and garner a fat profit from the cash value of the shooting, which is to develop into a "huge industry." The Government's end is to be financed by special selective taxation on shotgun shells, which will eventually create an annual fund of seven and a half millions to be specifically apportioned by Federal law to the use of the Biological Survey, to be applied to the program. State game programs are to be run on similar lines and to be paid for by "sufficient" (which we may safely read as "*increased*") fees for state licenses.

On the face of it, ornithologists enjoy game birds more than hunters do, stand to profit by their increase, and are anxious to see farmers respect and even develop the cover on their waste land. Also many projects and policies of the Foundation are altogether admirable, such as the principle of the defeated Hawes

bill to coordinate the various departments which affect game birds; the setting aside and protection of breeding areas for wild-fowl; the prevention of oil-dumping at sea. All these in themselves are good,—so good, indeed, and the Foundation so powerful and so skillful in the art of promotion, that we bitterly regret the deflection of so much power for good into so narrow and distorted a field. For unhappily these are details, and the whole is a frame-work of pernicious doctrines, too often speciously glossed over.

First and worst is the fact that, whether inevitably or not, such a program involves the implication that hunting (in the American meaning of the word) is a rich man's game. This was inevitable under certain conditions,—notably in small countries of intensive agriculture, high land-values, and a semi-feudal system of land tenure. Must it be so in the Americas? To be sure, it is pointed out that the tax on shells and the increased licenses are negligible to a man who buys guns, cases of shells, paraphernalia, dogs, boats, guiding, etc. etc. etc. Quite so! That sort of man, in the writer's experience, doesn't want to hunt anyway. He wants to play with expensive guns, shells, paraphernalia, etc.,—that is the chief part of the sport. But are not the majority of our six or eight million sportsmen still of the sort that sneaks down the creaking farmhouse stairs at dawn, in terror of waking the wife and babes, fumbles with numb fingers behind overcoats and gum-boots for the velvet barrels of the respectable hammer-gun his father swapped a spavined mule for back in '96, takes a short handful of pocket-worn shells from behind the clock, and starts, as a matter of course, for his neighbor's wood-lot, sniffing the frost? To him, the extra dollar or two makes all the difference, while shooting-rent or a club membership would put him as far from his own local birds as from the grouse of Balmoral. "The Foundation believes that no true sportsman has the right to go on the land of another in search of game without the owner's written consent, . . ." and, it will be observed, there is next to no mention of public lands in the whole program. It is on administration, research on propagation, distribution to the states for propagation, etc., not on stocking public lands, that the seven and a half millions of tax money is to go. The spectre of the legalized

private preserve sneaks continually between the lines.

On two technical points we are in direct opposition. First, as to the introduction of alien game birds. Once more, the naturalist is as anxious as the shooter to see "More Game Birds in America," but he has learned to accept such plausible propositions with large provisos. The slogan is a fine, red-blooded, Rotarian one. Amend it to "More American Game Birds in America," let the Foundation put itself squarely behind a kind of ornithological Dillingham bill, with no quota basis,—let it take its stand between what is left of the native upland game birds and extermination with replacement by squalid hand-bred old-world species, and it will remove a chief objection of the naturalist. The one or two watery lines devoted to the subject indicate the very opposite. Examples at home are too trite and too common for citation, but the writer recently drove down through a part of southern British Columbia, which we are prone to think of as representing the United States of our grandfather's time, with still a chance of salvation in these respects, and was astounded to find, even here, the superb native Blue and Willow grouse to all practical purposes extinct, while the road literally swarmed with the long-necked, half-grown pheasants and coveys of whirring Hungarian Partridges which have replaced them. These, ponderous gentlemen in tweeds go forth solemnly to pot, in the name of sport and conservation.

On the question of "vermin", too, the Foundation is far from being clear or sound. (Has the word then really entered the American vocabulary, or is it merely a Neo-Britannic effort on the part of our brethren of Long Island *et al.*?) We have progressed a long stride from the old-time keeper's rule that "what is not game must be vermin" (to be shot on sight, or snared), or, more correctly, we never quite occupied that level of degradation. Are we about to achieve it? Judging from the following we are, with a vengeance. "The Foundation advocates intelligent vermin control. By this it means *necessary control of all animals which are detrimental to game birds on areas devoted to this purpose.*" This, whether interpreted by single-eyed "sportsmen" or by "the lout with a gun who is only too anxious to have an excuse to destroy any form of wild life", can per-

haps be trusted to leave out a few rodents and smaller passerine birds, but other branches of the Government will take these as injurious to agriculture, so that a thorough job will ultimately be made of it. The last line of this section, "It would be unwise . . . to exterminate any species of predatory birds or mammals", is an entirely inadequate sop to Cerberus. The deep-seated killing complex, with its blind hatred of any animal against which an imaginary "economic" case can be trumped up, is closely allied to, and inflamed by, the sport-complex, which demands a monopoly of killing.

The last consideration which disinclines the writer to sympathize with this doubtless perfectly sincere and highly constructive program is the disappearance which it spells of American "hunting" beneath the new vogue of old-world "shooting." The word *shooter* was not used above without intent, for essentially the two things are as different as daylight and darkness. According to the tradition of the former the knowledge of the country and the problem of finding the game are the chief sources of satisfaction; in the latter case, the game, albeit composed of flesh, bone, and nerves, and animate with life, is merely a difficult and spectacular target, and the single factor of importance is marksmanship, which is developed far beyond anything which wild game shooting has produced in this country. There is no essential difference between shooting over butts in England and the abominable *tire aux pigeons* at Monte Carlo and elsewhere, except that the former is the hardest shooting on earth and superbly dramatic, while the latter is as easy as it is beastly.

The writer, since the days when he was slightly longer than the average pair of gun-barrels, has indulged in a good many forms of sport in a good many climes and seasons, and perhaps his blood is too deeply imbued for him to be safely considered a reformed character. But at least when it comes to backing a great movement to set up as our chief national ornithological ideal the covering of the face of this country with game birds, largely alien in species, like a Scotch grouse moor, to the exclusion of a considerable share of the natural fauna of each region, the best he can say is "not interested." In broadest economic analysis, also, these proposals are an offer, or fore-

shadow an offer, from a small group who can afford it, to the nation for its game birds. In all justice let it be said, they will pay liberally,—far more than the birds are worth otherwise in cold cash. Probably, in the natural sequence of social and economic development, just this must come to pass. Yet the writer dares hope that for the moment, for our time, the Government will have the character to write "Not for Sale" across the face of the proposal.

As we go to press the Foundation has issued further literature which will not exalt its standing among naturalists and conservationists: viz., a powerful and elaborate circularized plea, based on immediate, as opposed to far-sighted, economic grounds, to reduce wild fowl shooting to three days a week throughout the usual season, instead of reducing the season to one month, as has been done. In our opinion the former, even more than the latter, would amount to a mere gesture, and reduce actual shooting imperceptibly. Few wild-fowlers shoot more than three days a week in any season.—T. T. McCABE, Berkeley, California, September 1, 1931.

MINUTES OF COOPER CLUB MEETINGS

NORTHERN DIVISION

AUGUST.—The August meeting of the Northern Division of the Cooper Ornithological Club was held on Thursday evening, August 27, 1931, at 8:00 p. m., in Room 2003, Life Sciences Building, Berkeley, California, with fifty-five members and guests present. In the absence of the regular officers Mr. Brighton C. Cain occupied the Chair. Minutes of the Northern Division for July were read and approved. Minutes of the Southern Division for July were read. Mr. E. L. Sumner, Sr., through the Western Birdbanding Association, proposed for membership: Lyndon L. Hargrave, Assistant Director, Museum of Northern Arizona, Flagstaff, Arizona; Mr. E. E. Horn, 332 Giannini Hall, Berkeley, California; and Mrs. Susan E. Van Zandt, Box 435, Golf Tract, San Rafael, California.

At the request of Mr. C. B. Lastreto, who was unavoidably absent, Dr. Barton W. Evermann introduced the following resolution and moved its adoption.

"WHEREAS, in addition to the serious decrease in numbers of wild fowl of the

United States, consequent upon the restriction of their breeding grounds by agricultural and other encroachments, as well as upon the large increase in the number of hunters, the prevailing period of drouth on the Pacific Coast and elsewhere in the country has so greatly disturbed nesting conditions, particularly in relation to the ducks and geese, as to result in alarmingly small numbers of young having been raised, in view of which fact an enforced but temporary cessation of shooting of waterfowl has been suggested, in the hope of increasing their numbers to a more encouraging total; therefore be it

"RESOLVED, That the Northern Division of the Cooper Ornithological Club is heartily in sympathy with the idea of the hunting season for waterfowl being declared closed for the year 1931-32, in order to lessen the danger of their practical elimination, and that a copy of this resolution be at once forwarded to the Secretary of Agriculture, Washington, D. C."

Mr. T. T. McCabe followed Dr. Evermann's comment on the need for such action with a statement of seasonal conditions in the prairie districts of British Columbia, as reported to him personally by Mr. J. A. Munro of Okanagan Landing. Mr. Munro has just returned from an inspection trip over the areas in his region where waterfowl usually breed in great numbers. He stated that he had found many of the lake beds dry, as well as most places usually marshy. Because of these unprecedentedly unfavorable conditions many waterfowl had raised no young this year. Dr. Evermann's motion was duly seconded and unanimously carried.

Reports from the field were as follows: Gordon Bolander, two additions to the list of summer birds of Mosswood Park, an immature Hermit Warbler and a Slender-billed Nuthatch, seen on July 24; Mrs. Allen, Slender-billed Nuthatches in Strawberry Canyon before mid-August and Townsend Warblers this day; Miss Stedman, the presence at her feeding table of two Titmouses and the continued attendance of a crippled Song Sparrow through the seventh year; Mr. Grinnell, description of a most novel nesting of Canyon Wren as observed by Mrs. Lila Lofberg and fully reported upon elsewhere; the secretary, the puncturing of the blossom tubes of morning-glories by

an Anna Hummer, as watched daily through the summer by Mrs. C. S. Newhall; Mr. Cain, birds seen on a vacation trip to southern Alaska, of especial interest being a colony of Purple Martins at Seattle and Ravens hazing a young Bald Eagle at Sitka. Dr. Evermann reported that two Red-tailed Hawks had been received at the California Academy of Sciences from a correspondent who stated that they had been seizing quail. Stomach contents proved to be spermoophiles only.

Dr. Alden H. Miller was the speaker of the evening and told engagingly of "A Summer's Quest for Juncos." In company with Mrs. Miller he spent the time between May 15 and August 1 visiting suitable areas in several western states, in an endeavor to learn the breeding ranges of several forms of this systematically elusive bird.

Adjourned.—HILDA W. GRINNELL, Secretary.

SOUTHERN DIVISION

AUGUST.—The regular meeting of the Cooper Ornithological Club, Southern Division, was held at the Los Angeles Museum, Exposition Park, Los Angeles, Tuesday, August 25, 1931, at 8 p. m. President J. R. Pemberton presided and about thirty members and friends were present. The minutes of the July meeting of the Southern Division were read and approved, the minutes of the July meeting of the Northern Division were read.

One application for membership was read: Dr. Josselyn Van Tyne, Museum of Zoology, Ann Arbor, Michigan, proposed by J. Eugene Law.

There being no business to come before the meeting, the program of the evening was presented by Mr. and Mrs. James A. Calder. After a brief résumé of their four years' experience with nesting Marsh Hawks, a number of slides were given, showing the locality, the nests and eggs, the young as they developed from week to week, and the adults in flight as they sought to protect the nest. This series of slides was greatly enjoyed by everyone, and after some comments and questions, the meeting was adjourned to allow a closer examination of a number of enlargements of some of the pictures and of a set of quite heavily spotted eggs that was on exhibit.—JOHN MCB. ROBERTSON, Secretary.

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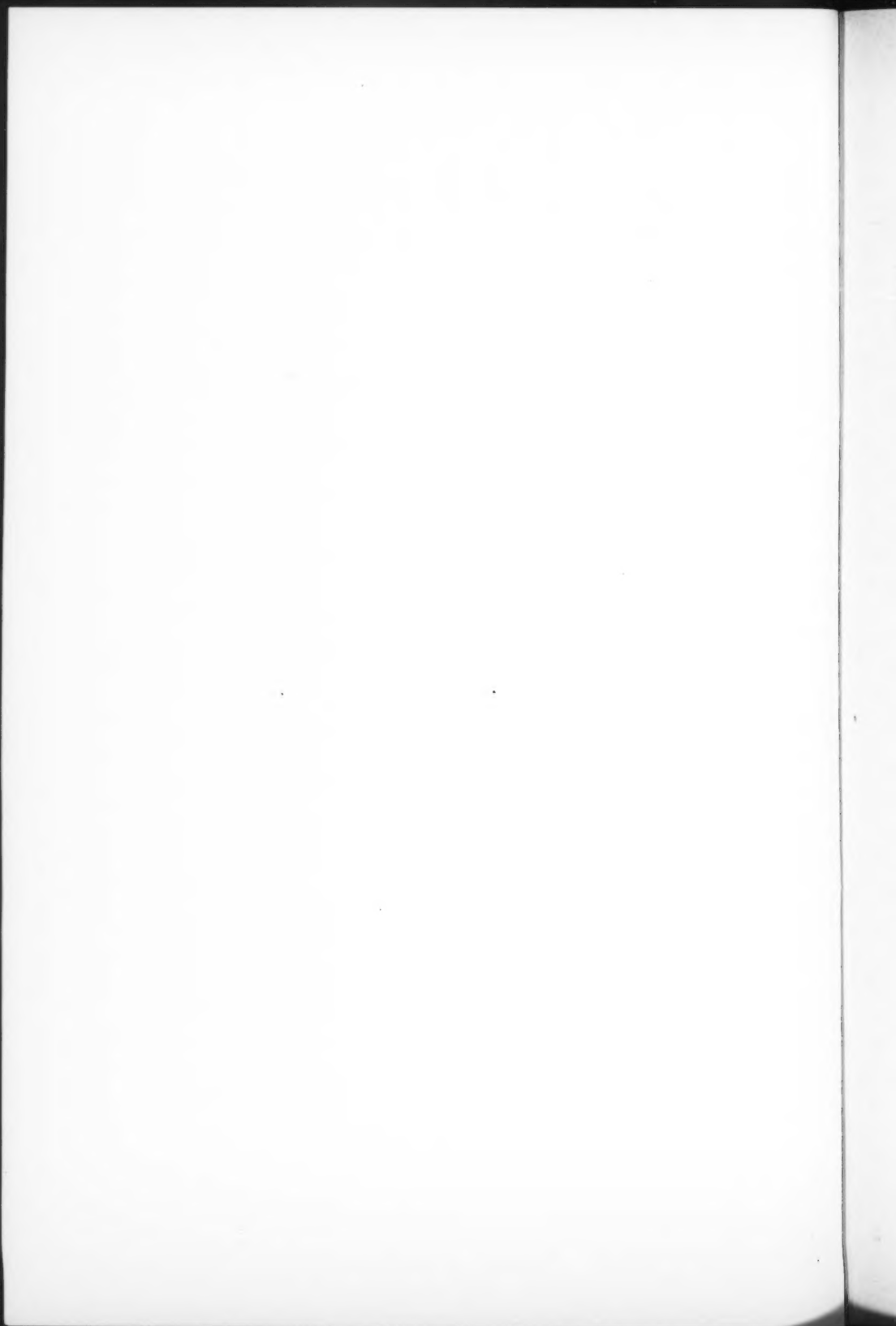
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